

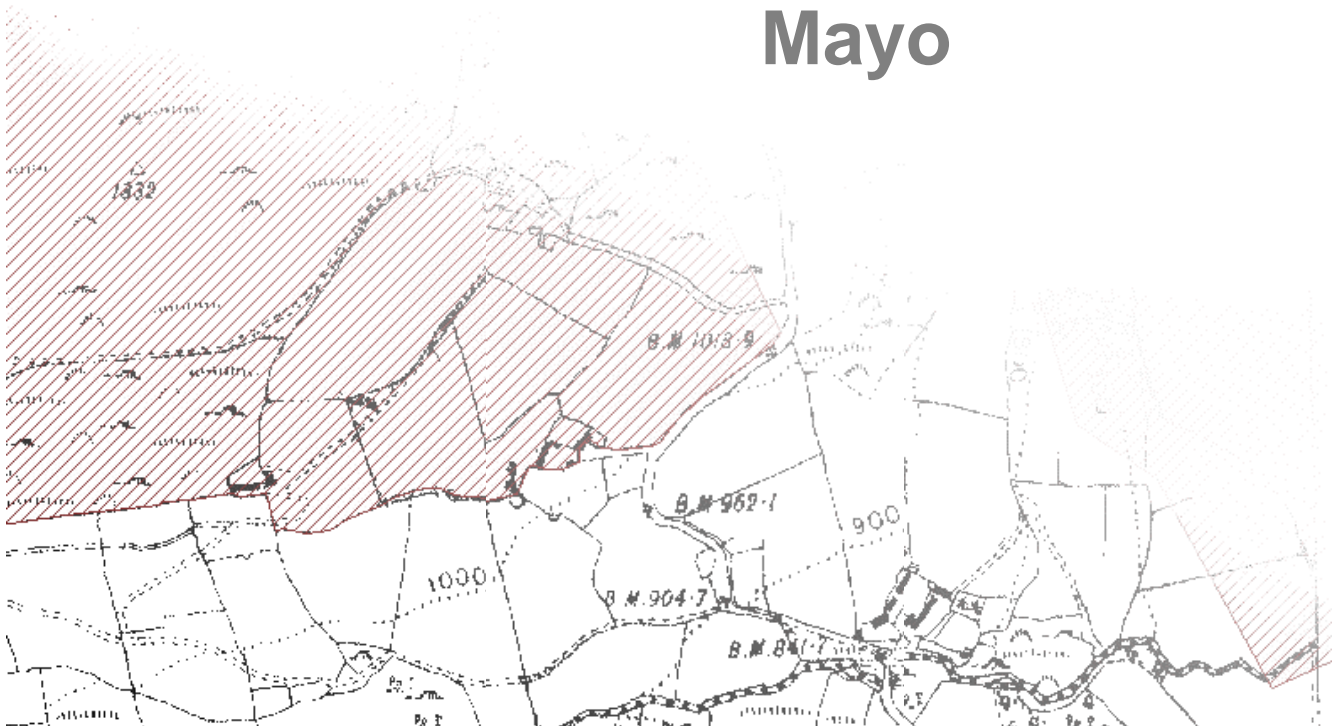


National Parks and Wildlife Conservation Plan for 2005-2010

Flughany Bog cSAC

Site Code 497

Co.s Sligo and
Mayo



SUMMARY

Site Description

Flughany Bog candidate Special Area of Conservation (cSAC) is located on the Sligo and Mayo border. It is a cSAC due to the presence of active raised bog and areas of degraded raised bog still capable of regeneration (priority and non-priority habitats on Annex I of the EU Habitats Directive respectively). Flughany Bog comprises an intermediate raised bog sharing features with blanket bogs. It was selected for conservation due to the representativeness of the central vegetation complex and because it is an example of the north-westerly climatic variation of the habitat, in its range.

Land Use

The main land use on the site involves limited peat extraction by mechanical means, for personal use only. Excavation of drainage ditches has occurred in the past but this practice has been phased out. There are a number of bog roads and tracks on the site. There is a small forestry plantation within the site and hunting and shooting also occur.

Main conservation issues

- Ownership and rights of use
- Peat extraction
- Bog hydrology

Main management objectives

- To maintain and, if possible, enhance the present extent of active raised bog habitat
- To maintain and, if possible, enhance other habitats on the site
- To liaise with landowners and relevant stakeholders regarding the management of the site

Main strategies to achieve objectives

- Continue the programme of land acquisition
- Continue to eliminate damaging activities
- Continue strict control of peat extraction activities
- Liaise with relevant stakeholders with regard to the site

ACKNOWLEDGEMENTS

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READER'S GUIDE

The Department of Environment and Local Government (DELG), has produced this plan to provide ecological information about the site and to outline the main objectives for the conservation of the special features of the site.

The **Introduction** outlines the **policy background** to the site's designation and the relevant legislation.

The **Site description** contains **general information** on the site's boundaries, ownership and organisations involved. It also contains sections on the **physical aspects** of the site such as geology and hydrology as well as the **biological features**, in particular, the habitats and species found there. **Land use** and cultural features are also described.

The **Ecological Assessment** assesses the main ecological attributes of the site.

The **Objectives, Strategies and Zoning section** outlines the management necessary for the conservation of the site. It starts with a set of specific **conservation objectives**. These are followed by the main **management issues** that may impact on the conservation of the site and the **strategies** that will be used to achieve the objectives as outlined. In cases where more information is required, general strategies are usually applied. Where sufficient data and knowledge is available, specific management prescriptions are outlined for the timescale of the plan. In the final section, the site is divided into management **zones** to indicate where each strategy applies.

The appendices include a **glossary** where scientific and technical terms are explained, a list of **notifiable actions** relevant to each habitat within the site, and additional information on the site.

INTRODUCTION

Legal Background for Conservation Plans

The legal basis for selection and designation of **Special Areas of Conservation** (SACs) is the **EU Habitats Directive**, which was adopted in 1992. Focusing on the conservation of natural and semi-natural habitats and species of flora and fauna, the Habitats Directive seeks to establish “Natura 2000”, a network of protected areas throughout the European Community. The Habitats Directive includes a list of habitats that require SAC designation and specific conservation measures. This list is known as Annex I and the habitats are referred to as Annex I habitats. On this list, habitats that require special attention because they are in danger of disappearance, are termed ‘priority habitats’. A second list, Annex II in the Habitats Directive comprises species that must be afforded special protection.

In Ireland, the habitats and species that must be afforded protection under the Habitats Directive include:

- 16 Annex I priority habitats that require particular attention – including raised bogs, active blanket bogs, turloughs and machair,
- 45 other Annex I habitats – such as certain types of heaths, lakes and woodlands,
- 25 Annex II species – including Otter, Freshwater Pearl Mussel and Killarney Fern.

It is the responsibility of each member state to designate SACs to protect the Annex I habitats and Annex II species. These sites, together with the **Special Protection Areas** (SPAs) designated under the **EU Birds Directive** (1979), form the European “Natura 2000” network.

The Birds Directive contains annexes, which are lists of birds that require particular conservation measures (Annex I), and also species that may be hunted, and species that may be sold. There are 28 Annex I species regularly occurring in Ireland including Whooper Swan, Greenland White-fronted Goose, Peregrine Falcon, Corncrake and Terns. Member states are also required to protect sites that are important for migratory species such as ducks, geese and waders.

The Habitats Directive was transposed into Irish law through the **European Communities (Natural Habitats) Regulations 1997**. The **Wildlife Act 1976** is the main statute governing the protection of wildlife in Ireland and was amended in 2000 to take account of European law, particularly the Habitats and Birds Directives. The **Wildlife (Amendment) Act 2000** also makes legal provision for the designation and protection of a national network of **Natural Heritage Areas** (NHAs). Over 1,100 proposed NHAs were published in 1995 and almost 400 of these are also selected as candidate SACs.

The European Communities (Natural Habitats) Regulations 1997 include the following points:

The Minister for the Environment, Heritage and Local Government must transmit a candidate list of sites to the European Commission for consideration.

Following adoption of this list by the Commission, the Minister will formally designate the sites as SACs.

Sites are legally protected once they are publicly advertised.

Landowners and other users with a legal entitlement should be notified of designation, and the Minister must make all reasonable efforts to do so. Notification also includes a list of activities that may alter, damage, destroy or interfere with the integrity of the site. A person who illegally damages a site may be prosecuted or required to repair damage.

Landowners and other users with a legal entitlement may appeal the designation of lands on scientific grounds.

Landowners and other users with a legal entitlement will be compensated for actual loss of income arising from restrictions imposed as a result of designation.

DEHLG is the government department with responsibility for the designation and protection of wildlife habitats, species and areas of conservation interest. As part of their responsibility in relation to biodiversity and wildlife under the Wildlife Acts (1976 and 2000), the Minister's brief extends far beyond the habitats and species listed in the annexes of the Habitats and Birds Directives. For this reason, cSAC conservation plans may deal with species that are not mentioned in these annexes.

Reasons for Site Designation

The reason for the proposal to designate this site as a SAC is the presence of:

HABITATS LISTED IN ANNEX I OF THE E.U. HABITATS DIRECTIVE	
<ul style="list-style-type: none"> Habitat No. 7110 - *Active Raised Bog 	The site is listed due to the presence of active raised bog, which is of particular conservation significance due its representativeness, its intact structure and because it is an example of the north-westerly climatic variation of this habitat. The Golden Plover and Red Grouse also occur on the site.
<ul style="list-style-type: none"> Habitat No. 7120 – Degraded raised bog still capable of regeneration 	The site supports an area of degraded raised bog that is regenerating.

* indicates priority habitat as listed in Annex I of the Habitats Directive

As part of his responsibility in relation to biodiversity and wildlife under the Wildlife Acts, the Minister's objective is to protect important habitats and species even though they may not appear in the Annexes of the Habitats Directive. This may mean that they are included in SAC conservation plans.

General Conservation Objectives

Under Article 6 of the EU Habitats Directive, DELG is required to ensure the favourable conservation status of all Annex I habitats and Annex II species within cSACs. By preparing, implementing and reviewing this plan on a five year basis, DELG aims to achieve the objectives of the Habitats Directive in relation to this site. The general objectives DELG will apply to achieve this are:

- to maintain the Annex I habitat(s) for which the cSAC is selected

- to liaise with the landowners, relevant authorities and interested parties
- to increase the scientific knowledge of the site through further scientific research and development of monitoring programmes

Specific conservation objectives and strategies are outlined in the section, **Objectives, Strategies and Zoning**.

Implications for landowners and other site users

In most areas designated as cSACs, current practices will not have to change significantly.

In cases where users are required to change practices or restrict activities to protect the wildlife interest of the site, compensation will be payable based on actual loss of income.

If an owner, occupier or user of a site wishes to carry out certain activities within the designated area (that are not covered by licence or consent from another statutory body), they must consult with, and get consent from, the Minister for the Environment and Local Government. These activities are listed as “Notifiable Actions” for each habitat (see Appendix IV). Local Authorities are obliged to ensure appropriate assessment of the implications of any development permission sought that may have an impact on a designated area.

The designation of the site or any conservation actions can be appealed by landowners or right-owners on a scientific basis. Details of the appeals procedure are also given in Appendix V.

SITE DESCRIPTION

Location including site boundaries

Flughany Bog cSAC traverses the Sligo/Mayo border approximately 7km north-east of Charlestown, Co. Mayo and 5.5 km south-east of Tobercurry, Co. Sligo.

Grid Ref.:	G 60 06
Latitude:	N 54° 00' 47"
Longitude:	W 08° 34' 59"
Area:	91 ha
Altitude Range:	85 m to 91 m
Townlands:	Flughany, Cloonfeightrim, Ogham, Mountirvine, Knocknahoo and Gortygara

(Map references are provided in Appendix II).

Site Boundaries

The site traverses the Sligo/Mayo border and is bounded to the south and west by local roads and agricultural lands, and to the north and east by agricultural lands (see Map 1). A small area of bog used for peat extraction is located along the eastern boundary.

Site Infrastructure

There are a number of bog roads in the eastern portion of the site. Two local roads form part of the western and southern site boundaries (see Map 1). Other tracks present in the area provide access to various parts of the site (see Map 1).

Legal Status

Ownership

The site is partly in the ownership of DELG (25%), with the Irish Land Commission owning an area in the centre of the site. The remainder of the site is in multiple private ownership.

Designations of the Site

candidate Special Site Code: IE0000497

Area of Conservation

proposed Natural Site Code: 00497
Heritage Area

CORINE biotope Site Code: 800000382

Severely Handicapped Area Under the Department of Agriculture designations, this site is categorised as a severely handicapped area (see Glossary, Appendix I) and as such is subject to the higher rate of headage payment, which is obtainable on livestock.

Past Status and Designation of the Site

An Foras Forbartha previously listed this site as an Area of Scientific Interest (ASI). It was included in a survey conducted in 1986, which had the aim of locating raised bogs of scientific interest (Douglas and Grogan, 1986).

Rights Pertaining To The Site

Turbary Many of the local farmers hold turbary rights for Flughany Bog.

Grazing There are grazing rights associated with the site.

Shooting The local gun club shoots over the site.

Management Infrastructure

Individuals and Organisations Involved

Landowners The site is owned in part by DELG (25%), in part by the Irish Land Commission (portion in the centre of the site) and in part by multiple private landowners. Private landowners use the site for grazing and limited peat cutting.

National Parks & Wildlife (NPW) of the Department of Environment and Local Government (DELG) NPW is responsible for maintaining the nature conservation value of the site. The site is patrolled by local Conservation Rangers, with input from other staff as necessary (see Appendix VI for further details of NPW regional staff).

Planning Authorities Sligo and Mayo County Councils are the relevant planning authorities for the site.

Local Authority Policy in relation to the Site

The *Sligo and Environs Draft Development Plan* (2004 - 2010) acknowledges that there is an obligation on local authorities to protect European sites, including SACs. Their specific objective in relation to SACs states that “*development infringements of these areas will only be considered where there is an over-riding public interest in doing so, associated with significant public*

infrastructure, where the development would not detract from the main attributes of the site and where adequate mitigation measures are put in place”.

The *Draft County Development Plan* (November 2002) for Mayo County Council states that “*It is an objective of the Council to protect and conserve areas designated as candidate Special Areas of Conservation*” as well as natural habitats listed under the Habitats Directive.

Physical Features

Climate

Climate data from Claremorris weather station (the closest station to the site) for the years 1961-1990 was obtained from the Met Eireann website. The data indicates that the average mean daily temperature for the area is 8.9°C, ranging from an average low of 1.3°C in February to an average high of 18.4°C in July. The average annual rainfall is 1143mm. The sun shines for an average of 3.05 hours a day. The prevailing wind is westerly, and has an average speed of 8.8 knots. Snow and sleet were recorded on an average of 24.1 days each year, but snow only remained on the ground at 9 am on 6.3 days per year. For further climate details see Appendix III.

Rainfall data for Flughany Bog (1951-1981) (Kelly *et al.*, 1995) are summarised as follows:

- 1220mm/yr of rainfall
- >428.1mm/yr of actual evapotranspiration
- <801mm/yr of potential recharge
- 234 raindays (i.e. >0.2mm (annual { 1951-81 }))

Geology & Geomorphology

Flughany Bog is an intermediate raised bog (i.e. an area of raised bog which has swollen out beyond the boundary of the original raised bog and occurs where rainfall is between 1,000 – 1,250 mm/year), which shares features with blanket bogs. While there is an absence of a definite dome within the bog, the southern lobe of the bog is dome-like and fills a basin that lies between drumlin ridges. The northern section of the bog resembles a blanket bog consisting of thin peat, which lies upslope on a drumlin consisting of clayey till. The bog's maximum height is 91m OD (Ordnance Datum), and is surrounded by several ridges and a drumlin.

Soils & Soil Processes

The subsoil geology of this bog and the surrounding area is dominated by low permeability tills with a clayey matrix. The majority of clasts comprise limestone, with a smaller proportion comprising sandstone. The depth to bedrock is not known.

Hydrology & Water Quality

The bog is situated in a recharge area at the top of a valley within the upper reaches of the Owengarve River, a tributary of the River Moy. Drainage is extensive to the east and north-east of this bog with deep marginal drains to the north-west. The northern section has been divided from the south by drainage works along a till ridge. The most recent drains have been inserted to the west of the southern section of the site (see Map 3 Drainage).

For further information on the geology, soils and hydrology of the site see the Raised Bog Restoration Project, Part 1 Summary Report, (Kelly *et al.*, 1995).

Biological Features

Habitats and Vegetation

Note: Throughout the conservation plan, habitats are named and described under two different systems: the Annex I habitat(s) are as listed in the EU Habitats Interpretation Manual, while all other habitats are as listed according to the NPW NHA classification system.

The following table lists the habitats within the site. The Annex I habitat(s) of the Habitats Directive for which the site was selected is listed, with the relevant NHA category also shown. The Annex I priority habitat is marked with an asterisk (*). The Gross Habitat map for the site is presented in Map 2. The percentage presented for each habitat type is based on the approximate geographic area of each habitat, as shown in Map 2.

Habitats Found within Flughany Bog cSAC

ANNEX I HABITAT TYPE	CORRESPONDING NHA CATEGORY	% AREA
*Active Raised Bog	Raised Bog & Flushes	65%
Degraded raised bog still capable of regeneration	Cutover Bog	15%
-	Areas of Current Peat Cutting	15%
-	Scrub	2%
-	Drains and ditches	<1%
-	Forest Plantation	1%
-	Bog Roads	<1%

Annex I Habitat:

Active raised bog
(55% of total site area or 50ha and 10% of the total site area or 9ha respectively))

The higher quality raised bog is found in the southern section of the site. The wettest area (or core area) is located in the eastern portion of this section and is approximately 4 ha. *Sphagnum* cover is 40% with a definite hummock/hollow/pool topography. Species which are found include the bog mosses *Sphagnum auriculatum*, *S. capillifolium*, *S. tenellum*, *S. magellanicum*, *S. subnitens*, *S. papillosum* and the rare hummock forming mosses, *S. imbricatum* and *S. fuscum*, the latter of which is frequent on the bog. The surface of the bog is wet and quaking in this area. Species such as Bogbean (*Menyanthes trifoliata*) and Great Sundew (*Drosera anglica*) are also found.

The remainder of the bog is drier, with a fairly low *Sphagnum* cover, and is dominated by species such as White Beak Sedge (*Rhynchospora alba*), Bog Asphodel (*Narthecium ossifragum*) and Carnation Sedge (*Carex panicea*), which may be indicative of the drying out of the bog. Ling Heather (*Calluna vulgaris*) is also abundant. Some tear pools are found, which may indicate subsidence.

Areas of active raised bog that are particularly badly damaged lie close to drainage works and areas of active turbary. Species diversity is low in these areas with much exposed peat where machinery has traversed the site. The dominant species are Ling Heather, Bog Cotton species (*Eriophorum spp.*), Deergrass (*Scirpus cespitosus*), Bog Asphodel, Bog Myrtle (*Myrica gale*) and Carnation Sedge.

Degraded raised bog still capable of regeneration (15% of total site area or 14ha)

There are three flushes within the site. The largest runs east/west along the north of the southern section of the site follows the course of an underground stream. Species rich swallow holes are seen along its length. Purple Moor Grass (*Molinia caerulea*) and Bog Myrtle dominate the flushes, and Soft Rush (*Juncus effusus*) and Ling Heather are also found in these areas.

This habitat is found along the site boundaries. The old cutover has typically experienced revegetation by Many-flowered Bog Cotton (*Eriophorum angustifolium*) and Ling Heather.

In the south-east, fields and meadows have been developed on cutover areas that have become grasslands dominated by Rush species (*Juncus* spp.). To the south-west of the site, the areas of old peat cutting have been colonised by Purple Moor Grass, Ling Heather with some Bog Myrtle.

To the west of the site, where a flush exits the site, there is an area of cutover dominated by Ling Heather with Bracken (*Pteridium aquilinum*), Willow (*Salix* spp.) and Honeysuckle (*Lonicera periclymenum*) in the old drains. Further north, and in association with the central ridge located on the site, fields at the same elevation as the high bog are dominated by Rush species. Hedgerows of mixed deciduous species occur beyond the cutover to the west.

Other Habitats

Current Peat Cutting Areas

Two types of peat cutting methods (i.e. Long Arm and Hopper methods) affect all the site boundaries. In these areas, the cutting procedure has resulted in a lowering of species diversity on the margins of the bog.

Scrub

In some areas where the cutover is very old, the area has been completely invaded by scrub species such as Birch (*Betula pubescens*), Willow (*Salix* spp.) and Gorse (*Ulex europaeus*). Scrub occurs on a small section of cutover in the north of the site.

Drains and Ditches

Drains are found both on active raised bog and on cutover parts of the bog. Drainage is extensive to the west of this bog with deep marginal drains to the north-west. The northern section has been divided from the south by drainage works along a till ridge. The most recent drains were inserted to the west of the southern section of the site, however the digging of drains no longer occurs at the site.

The old, large turbary drainage ditches have been invaded by species such as Soft Rush, Common Reed (*Phragmites australis*), Pondweed (*Potamogeton* sp.), Water Horsetail (*Equisetum fluviatile*) and Bog Asphodel. Willow (*Salix aurita*) is colonising the banks of these ditches.

Marginal drains of the old hand cutover sites are now filled with Willow, Blackberry (*Rubus fruticosus* agg.), Hawthorn (*Crataegus monogyna*), Rowan (*Sorbus acuparia*) and Birch. A detailed account of the drainage system of this bog is given in Kelly *et al.* (1995), with surface drains shown in Map 3.

Forest Plantation

A small Sitka Spruce (*Picea sitchensis*) plantation (900m²) was planted on cutover at the south of the site about 16 years ago. Drains were dug in this area at the time of planting.

Bog Roads

There are a number of bog roads concentrated to the east of the site that allow easy access onto the bog. There are two tracks on the site (see Map 2). These are drained and were associated with the heaviest concentrations of dumped material.

Fauna:**Birds**

Bird species occurring on the site include Golden Plover (*Pluvialis apricaria*,) and the Red Grouse (*Lagopus lagopus hibernicus*). The Golden Plover is listed as a vulnerable species in the Irish Red Data book (Whilde, 1993) and is also on Annex I and II of the Birds Directive, however this species is not breeding on the site. The Red Grouse is known to breed on the site (minimum one pair) and is in decline in Ireland. Other bird species of interest occurring on the site include Curlew (*Numenius arquata*), Lapwing (*Vanellus vanellus*), Breeding Snipe (*Gallinago gallinago*), Skylark (*Alauda arvensis*), Reed Bunting (*Emberzia schoeniclus*), and Woodcock (*Scolopax rusticola*).

Mammals

Mammal species occurring on the site include the Irish Hare (*Lepus timidus hibernicus*), which is an Irish Red Data Book species listed as Internationally Important and is also listed on Annex V of the Habitats Directive, as well as the Fox (*Vulpes vulpes*). There is an extensive Badger (*Meles meles*) sett located in the western portion of the site. Badgers are listed in the Irish Red Data Book as Internationally Important.

Cultural Features

Land use and impacts on the site**Peat Extraction**

Limited peat extraction by mechanical means occurs on the site and is for personal use only. It is strictly controlled by NPW through the issuing of permits. Peat extraction occurs only on existing peat banks, with no new banks being opened within the site. The digging of drains no longer occurs on the site. Peat extraction was occurring on all edges of the bog, with the exception of a section of the southern boundary and in the north-west of the site in the vicinity of the ridge. Bog roads along the eastern edge of the site allow easy access to the site. Commercial peat extraction activities have recently been terminated at the site.

The intensity of peat extraction has been reduced recently following the implementation of a relocation strategy by NPW. This strategy has involved DELG purchasing an alternative area for peat extraction (i.e. Derrickinlough bog) and the transfer of turbary rights from Flughany Bog to the newly purchased site.

Drainage Ditches

Excavation of drainage ditches to drain the bog has occurred at various times in the past, either for forestry planting or to fulfil turbary rights, but this practice has been recently phased out. Drains recently inserted into the western edge of the southern lobe of the bog are subject to some peat extraction. The drainage system of the bog is described in detail in a study by Kelly *et al.*, (1995).

Roads and Tracks	There is a series of bog roads and lesser tracks running onto the bog, particularly in the eastern and northern portions of the site. The roads and tracks provide easy access onto the bog for turf cutters, but also for dumping.
Cattle Grazing	Up until recently, there was evidence of cattle entering the high bog from an enclosed area to the west of the central flushed area of the bog. However, following the implementation of the REPS, this area has since been fenced off and cattle no longer graze the area. Some cattle poaching has been observed in other areas, but the damage was not as extensive as within the fenced off area.
Forestry Plantation	A small section 30m x 30m of cutover bog has been planted with Sitka Spruce, which is approximately 16 years old.
Burning	Land in the western portion of the site has been control burned in the past in association with peat cutting.
Dumping	Dumping was extensive at this site but has been discouraged through the placement of signage at the site. Previously dumped material included domestic waste, old kitchen appliances (e.g. fridges and washing machines), bedding and furniture as well as old vehicles.
Shooting	The local gun club shoots over Flughany Bog. Hunting activity is very low (Lundy, R., <i>pers. comm.</i>).

Land use adjacent to the site

Peat Extraction	Mechanical removal of peat occurs on land adjacent to the eastern boundary of the site.
Agricultural Practices	Adjacent bogland and farmland is drained, fertilised and grazed by cattle. There is summer grazing of cattle on an area of enclosed bog adjacent to the site. Cattle poaching damage is evident in this area.
Habitation	There are a number of farmsteads and private houses within the surrounding area. Many of these local farmers have turbary rights pertaining to the site.
Dumping	Dumping similar to that described previously is occurring on all of the bog roads leading to the site and on adjacent cutover bog, although it has been controlled to some extent by the provision of 'No Dumping' signs along the bog roads in the area.

Past human use

Hand cutting of peat has been practiced at Flughany Bog in the past. The old bog roads are shown on the 1910 6" map. The bog now covers only 48% of its original size, as recorded in the 1840's. Up until recently, there were four commercial turf-cutting businesses extracting peat from the site, but all commercial turf cutting at the site has been discontinued.

Recorded Monuments and Other Features

There are no recorded monuments on the site.

ECOLOGICAL ASSESSMENT

Note: The following is an assessment of the ecological features of the site. It is largely based on information given in the explanatory notes which accompany the Natura 2000 form (compiled in May 1995). Additional information, obtained since these notes were written may also have been used to make the assessment.

The active raised bog habitat present on the site is of particular conservation significance due to the representativeness of the 'central vegetation complex' (i.e. undisturbed raised bog and areas of bog recovering after a drying episode) located within the site. Furthermore, it is an example of the north-westerly climatic variation of this habitat, within the range of the active bog habitat type. It is noted that the 'central vegetation complex' located in the southern section of the active raised bog is of higher quality than other areas of active raised bog on the site, and is the reason for the selection of the site as a SAC.

The active raised bog habitat is assessed as having a relatively intact structure and is favourable for conservation. The other habitats within the site include degraded raised bog, scrub and a forestry plantation, and are not considered to be of conservation significance. Overall, the site is considered to be of good conservation value.

There is an active history of peat extraction from the site, although the intensity of this activity has been reduced recently. A number of surface drains have been inserted into the bog and the marginal drainage effects have been significant, however the digging of drains on the site no longer occurs.

The relative surface area of active raised bog present on the site forms less than 2% of the raised bog resource in Ireland, which is estimated to be 20,000 ha.

OBJECTIVES, STRATEGIES AND ZONING

Conservation Objectives

The nature conservation objectives for this site are:

- | | |
|---------------------|--|
| Objective 1: | To maintain and, where possible, enhance the present extent and quality of the core area of active raised bog (4 ha). |
| Objective 2: | To improve the quality of the active raised bog areas that show signs of drying out and are degrading and protect the present core area and increase the amount of good quality bog (40 ha). |
| Objective 3: | To maintain and enhance, where possible, the ecological value of semi-natural habitats on the site, including the old cutover bog (14 ha) and scrub (1 ha). |
| Objective 4: | To maintain and, where possible, increase the population of important or protected species on the site, namely the Golden Plover and Red Grouse. |
| Objective 5: | To continue effective liaison between NPW and other interested parties (landowners, landusers, local authorities and any other interested parties) on management of the site. |

Management Issues

Note: The main issues that may impact on the conservation of the site are outlined below. The constraints that these may pose and the management potential for the site are discussed.

- **Ownership & Rights of Use**
- **Peat Extraction/Drainage**
- **Bog Hydrology**
- **Conifer Forestry**
- **Site Access**

Ownership & Rights of Use

DELG own approximately 25% of the site and ideally, for conservation management, the site should be in the entire ownership of DELG. Given the site's importance in the European context, NPW are currently transferring current turbary rights on Flughany Bog to an alternative site, in

consultation with turbary rights holders. The main priorities for the site are to continue to transfer turbary rights from Flughany Bog, to block drains to prevent further drying out of the bog on cutover areas and prevent damaging activities.

Peat Extraction/Drainage

Mechanical peat cutting from existing turf banks (for personal use only) occurs on the site, but can only be conducted under permit from the NPW.

Previous peat cutting (mechanical and hand cutting), associated drainage and burning has caused the drying out of the peat and degradation of the bog habitat. Degraded cutover is undergoing successional change to scrub. There are signs of tracking running over the bog surface, where machinery has been brought on site for peat extraction.

Bog Hydrology

There is limited information available regarding the hydrology of the bog. A detailed hydrological study will be necessary in order to examine the effects of blocking drains on the high bog, cutover bog and surrounding agricultural areas to examine the feasibility of rehabilitation works on the site.

Conifer Forestry

A small block of conifers has been planted as a windbreak in the southern portion of the site.

Site Access

Bog roads in the area provide easy access to the site and encourage peat cutting, drainage and dumping activities. Dumping on the site has recently been controlled by the installation of 'No Dumping' signs. There is currently no information available about traditional rights of way relating to bog roads and tracks within, and leading onto, the site.

General Strategies

Specific strategies that relate to the above objectives are outlined below. However, there are a number of strategies that relate to the site as a whole. These are as follows:

Implement plan

DELG will seek to ensure that the aims of this conservation plan are achieved through:

- liaison with the landowners, relevant authorities and interested parties
- implementation of REPS or DELG farm plans, which will use this document as a guideline for prescribing management on a farm by farm basis, and also will ensure that the agreed prescriptions for the relevant habitats are adhered to
- enforcement of Regulations under the Habitats/Birds Directives and the Wildlife Act
- enforcement of other relevant legislation such as the Water Framework Document

Establish a monitoring regime

The monitoring regime for the site will comprise:

Water quality monitoring

Water quality is monitored at regular intervals by the local authorities. NPW staff will liaise with Sligo and Mayo County Councils, and will collate and review this information on a regular basis. NPW will also liaise with relevant bodies (n.b. the EPA and local authority) in relation to compliance with the EU Water Framework. In particular:

- To establish reference conditions necessary for monitoring the status of the qualifying habitat. These conditions will be defined using data from undisturbed hardwater lakes, or if appropriate, techniques such as modelling and palaeo-ecological studies
- To ensure that the sampling regime is adequate to detect changes in the conservation status of the designated area

NPW will liaise with the local authorities and other relevant agencies in ensuring that the full ecological importance and sensitivity of the site is taken into account during the production of the River Basin District Management plan. In addition, NPW will liaise with the Local Authorities in ensuring that sewerage disposal systems for all new (and existing) dwellings within the catchment area are of appropriate standards.

Scientific monitoring

Monitoring of the favourable conservation status of the active raised bog will be done by, or on behalf of, the staff of the Monitoring Section of the NPW or staff working to NPW in accordance with the procedures laid down by that section. The work, if any, to be done on this site in that respect will be prescribed by that section.

Site surveillance

Patrolling of the site by the Conservation Ranger, with special attention to the active raised bog will identify any major changes, damaging operations, or threats should they arise.

Enforce notifiable actions

Certain activities may be restricted in SACs. Notifiable Actions for particular habitats are listed in Appendix IV of this plan. Permission from the Minister is required before these actions may be carried out within the designated area. For example, the dumping, burning or storing of materials and drainage works on the bog or within its local catchment are notifiable actions with regard to raised bogs.

Specific Strategies

Objective 1.

Maintain and, where possible, enhance the present extent and quality of the core area of the active raised bog.

Strategies:

- | | |
|---|--|
| <p>1.1. Non Intervention</p> | <p>No active management is required to maintain the core area of this bog where there are no drains. Patrolling of the site by the Conservation Ranger will detect any changes or threats that may arise. Monitoring of the favourable conservation status of this area is to be carried out according to the general monitoring strategies.</p> |
| <p>1.2. Land Purchase</p> | <p>NPW will continue to negotiate the purchase of remaining lands and turbary rights on the site, which become available on the open market (see Strategy 1.3 below) and will prioritise purchase of the high bog in the southern lobe of the site (identified on Map 4). The purchase of the entire site may not occur within the time period of this plan, but this will be an ongoing conservation strategy. This strategy is necessary to ensure control of peat cutting within the site, particularly on the active raised bog, and is relevant to achieving all of the objectives. The Irish Land Commission owned land will be purchased immediately. NPW will obtain legal agreements in relation to the transfer of ownership and turbary rights.</p> |
| <p>1.3. Control Peat Cutting</p> | <p><u>Cutting for domestic use:</u> DELG is seeking to purchase turbary rights and, where possible, fee simple ownership on raised bogs. €3451.41/ha for turbary rights and €4078.95/ha for fee simple and turbary rights apply. Turf cutters who do not want to avail of the above acquisition package may cut for domestic use until 2008, when all cutting must cease. Cutting requires a permit from the Minister. Sausage machines may not be used, but face-bank and hopper machines may be used. In cases of doubt, intending cutters should contact the local Conservation Ranger. On particularly sensitive areas of bog, the Minister may require that no cutting take place for any purpose.</p> |

Objective 2.

Improve the active raised bog areas that show signs of drying out and are degrading and protect the present core area and increase the amount of good quality bog (40 ha).

Strategies:

- | | |
|---|---|
| <p>2.1. Conduct Hydrological and Levelling Studies</p> | <p>NPW will employ surveyors to conduct a hydrological study of the site, with particular reference to the source and relation of flush waters to the bog needs to be carried out. A levelling survey is also recommended to determine the extent of drying out that is occurring. The effects of drain blocking on the surrounding agricultural land will be examined prior to the blocking of drains that run off the bog.</p> |
| <p>2.2. Block Drains</p> | <p>Surface drains on the southern lobe of the bog will be blocked, as appropriate, following the completion of the levelling survey. It will be necessary to wait for the results of the hydrological survey before the work on drain blocking in the area of the flushes can commence. Subject to the findings of these surveys, restoration works will commence within the period of the plan. Experienced NPW staff will be consulted on the best approach to drain blocking and dam construction. The hydrological and ecological condition of the bog will be monitored before, during and after this work, and written and photographic records of the work kept (see general monitoring strategies).</p> |
| <p>2.3. Maintain Restoration Works</p> | <p>Regular patrolling of the site by the Conservation Ranger will identify any maintenance work that will be needed for dams or drains once the restoration work has commenced (see general monitoring strategies).</p> |

Objective 3.

Maintain and enhance, where possible, the ecological value of semi-natural habitats on the site, including old cutover (14 ha) and scrub (1ha).

Strategies:

- | | |
|--|---|
| <p>3.1. Control Peat Cutting</p> | <p>Peat cutting in the cutover of a raised bog is a notifiable operation and as such is allowed only with permission of NPW. There will be no commercial or industrial peat-cutting permitted within the site (see strategy 1.3).</p> <p>The Conservation Ranger will liaise on site with turf cutting contractors and ensure that only permitted peat cutting is carried out on the site. Contractors are required to provide the appropriate permit. Permits for personal peat cutting will not be issued unless ownership and title documentation is provided.</p> <p>Areas of current peat cutting in three areas in the northern lobe of the site will be permitted (see Map 4), but will be carried out in consultation with NPW. No new banks of peat will be opened up. These areas will be accurately delineated on a map.</p> |
| <p>3.2. Prevent Further Afforestation</p> | <p>No further afforestation should occur within the site boundary. When the current cycle is completed and trees have been felled, no reforestation should occur.</p> |

Objective 4.

To maintain and, where possible, increase the population of important or protected species on the site, Golden Plover and Red Grouse.

Strategies:

- | | |
|---|---|
| 4.1. Maintain Golden Plover and Red Grouse Populations | Strategies that ensure the safeguarding of the priority and other habitats should be sufficient to maintain the populations of breeding birds on the site. Populations and breeding status of Golden Plover and Red Grouse will be recorded on an annual basis, if possible. This could be achieved by regular patrolling of the site by the Conservation Ranger during the winter and breeding seasons, which will be carried out in conjunction with visits to the sites for other purposes (in accordance with the general monitoring strategies). Written records will be kept. |
|---|---|

Objective 5.

Continue effective liaison with interested parties (landowners, local authorities and any other interested parties) on management of the site.

Strategies:

- | | |
|---|--|
| 5.1. Liaise with interested parties | NPW will strive to initiate and maintain effective liaison with landowners (particularly through the Liaison Committee), relevant authorities and interested parties on achieving the objectives for conservation of the site. |
| 5.2. Monitor development applications | NPW will continue to monitor applications, including current applications, for planning permission and licenses for lands within and adjacent to the site. Appropriate bodies will be notified if developments are thought to conflict with conservation objectives. |
| 5.3. Liaise with REPS planners | REPS planners are required to consult with NPW staff when they are developing plans for land within the site. |
| 5.4. Liaison between County Conservation Rangers | NPW will ensure that the Conservation Rangers for the site from Co. Sligo and Co. Mayo conduct continuous liaison regarding the ongoing conservation management of the entire site. |

Zoning

Note: Zoning is the division of a nature conservation site and neighbouring lands into a number of sub-units. There are four types of zones identified (not necessarily all occurring within a site): A, B and C within the site and D outside the site but impacting on it. The relevant strategies are listed for each site.

Zone A: A Natural Zone

Areas of high conservation value, which require no or little intervention (see Map 4).

1A: NON-INTERVENTION AREAS

1A1: Active Raised Bog (with no surface drains)

Strategies 1.1-1.3 apply.

Zone B: Active Management

Areas of high conservation value where high management input is needed to maintain, rehabilitate, restore to a more desirable state (see Map 4).

B1: ACTIVE RAISED BOG, FLUSHES AND CUTOVER

Strategies 1.3, 2.1-2.3 and the general monitoring strategies apply.

B2: ACTIVE PEAT CUTTING

Strategies 1.2-1.3, 2.1-2.2 and 3.1 apply.

Zone C: Intensive use Zone

Areas of low conservation value, managed for objectives other than nature conservation, but which are an important part of a nature conservation site (e.g. infrastructure). See Map 4.

C1: ACTIVE PEAT CUTTING

Strategies 3.1 and 1.3 apply.

C2: ROADS AND TRACKS

Strategy 5.4 applies.

C3: CONIFER PLANTATION

Strategy 3.2 applies.

Summary of Specific Strategies

Note: It is implicit with all the strategies presented that their implementation is dependent on availability of adequate resources in terms of staff, expertise and financial resources. Also, that cooperation with landowners and other key stakeholders is key to achieving the stated objectives.

	Strategy	Action required	Who to implement	When/Duration/Frequency	Estimated Total Cost	Additional Resources needed
1.1	Non Intervention	No active management is required to maintain the core area of active raised bog. Conduct regular monitoring of conservation status as per general monitoring strategies.	-			
1.2	Land Purchase	Purchase land and turbary rights within the site.	DELG			
1.3	Control Peat Cutting	Ensure damaging operations do not occur on the site. Consultation with NPW required for certain operations.	NPW and landowners/turbary right holders			
2.1	Conduct Hydrological and Levelling Studies	Employ surveyors to conduct required studies.	NPW			
2.2	Block Drains	Block drains following completion of required studies.	NPW			
2.3	Maintain Restoration Works	Identify maintenance work for drains and dams once restoration works are initiated.	NPW			
3.1	Control Peat Cutting	Ensure that only permitted peat cutting occurs in the appropriate areas of the site.	NPW			
3.2	Prevent Further Afforestation	Ensure that no further afforestation occurs within the site.	NPW			
4.1	Maintain Golden Plover and Red Grouse Populations	Implementation of the relevant strategies protecting priority and semi-natural habitats will maintain bird populations. Record population numbers regularly.	NPW			
5.1	Liaise with interested parties	Initiate and maintain effective liaison with all interested parties.	NPW			
5.2	Monitor development applications	Monitor development applications within and adjacent to the site.	NPW			
5.3	Liaise with REPS planners	Liaise with NPW when developing REPS plans within the site.	REPS Planners			
5.4	Liaison between County Conservation Rangers	Ensure regular liaison between County Conservation Rangers occurs.	NPW			

APPENDIX I:

GLOSSARY

ACQUISITION - To buy land or rights pertaining to land.

AFFORESTATION - The planting of trees (usually conifers) over an area of previously unplanted ground.

ALTITUDE - Vertical height above sea level.

AMPHIBIANS – A vertebrate group whose members spend part of their life cycle in water and part on land e.g. Frog.

ANNEX I - of the EU Birds Directive, lists birds that are strictly protected so that they cannot be killed, captured, disturbed or traded.

ANNEX I - of the EU Habitats Directive, lists habitats including priority habitats for which SACs have to be designated.

ANNEX II - of the EU Birds Directive lists birds which may be hunted.

ANNEX V - of the EU Habitats Directive lists animal and plant species of Community interest whose taking in the wild and exploitation may be subject to management measures.

ASIs - Areas of Scientific Interest. Areas that were identified in the 1970s as being of conservation interest. The NHA designation developed from ASIs.

BASIN - A depressed area of the Earth's surface, in which sediments accumulate.

BIODIVERSITY – A general term used to describe all aspects of biological diversity, including: the number of species present in a given environment; the genetic diversity present within a species; the number of different ecosystems present within a given environment.

BIOTOPE - An environmental region, defined by certain conditions characteristic organisms that typically inhabit it

BIRDS DIRECTIVE (Council Directive 79/ 409/ 2nd April 1979) - Under this Directive Ireland is required to conserve the habitats of two categories of wild birds: 1) Listed rare and vulnerable species and 2) Regularly occurring migratory species. The Directive also obliges Ireland to conserve wetlands, especially those of international importance and regulates the hunting and trading of wildbirds. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

CATCHMENT - An area of land draining to a defined point. The term river catchment refers to the area of land that drains into a particular river system.

CONSERVATION STATUS - The sum of the influences acting on a habitat and its typical species that may affect its long term distribution, structure and functions. Also refers to the long-term survival of its typical species within the European territory of the Member States.

CORINE - An information and mapping system, developed within the context of the Commission of the European Communities biotope project, which is used as a tool for the description of sites of importance for nature conservation in Europe. It catalogues recognisable communities of flora and fauna. The primary objective of this catalogue is to identify all major communities whose presence contributes to the conservation significance of a site. Included in this list of communities are interesting but rare natural or near-natural communities as well as the more widespread semi-natural ones.

CUTOVER BOG – An NPW habitat classification that describes areas of bog which have been previously cut, although not down to the marl layer or bedrock. Cut-over areas are normally a mosaic of cut areas, face banks, pools, drainage ditches, uncut areas of peat, scrub, grassland etc.

DELG - Department of Environment and Local Government

DEVELOPMENT PLANS - Local Authorities (Co. Councils & Corporations) are obliged under statute to produce a document which sets out the planned development of their areas for a given number of years. In the future Local Authorities will be asked to incorporate designated NHAs, SACs and SPAs classifications into their development plans.

DIVERSITY - see biodiversity.

DOMESTIC PURPOSES - Used in relation to the cutting of peat. Peat that is cut for domestic purposes is not for commercial sale and is cut at the rate of one year's supply for a household per year.

DRAINAGE DITCHES - An NPW habitat classification which refers to water channel systems with moving or stagnant water bodies, artificial in origin. Most ditches are cleared cyclically, although this category also includes ditches that are overgrown with wetland plants.

ECOLOGY - The study of the interactions between organisms, and their physical, chemical and biological environment.

ELEVATION - The height of something above a given place, usually above sea level.

ENVIRONMENT – The biological and physical conditions in which an organism lives.

EPA – Environmental Protection Agency

EUROPEAN BIRDS DIRECTIVE (79/ 409/ 2nd April 1979) - See Birds Directive.

EVAPOTRANSPIRATION - Water loss to the atmosphere from soil (evaporation) and vegetation (transpiration). The potential evapotranspiration may be calculated from physical features of the environment such as wind speed and temperature. The actual evapotranspiration will commonly fall below the potential depending on the availability of water from precipitation and soil storage.

FACILITATOR - A person who, in consultation with others, assists NPW staff in the production of a conservation or management plan.

FAUNA - Animal life.

FAVOURABLE CONSERVATION STATUS - The conservation status of a natural habitat will be taken as "favourable" when: its natural range and areas it covers within that range are stable or increasing, and the specific structure and functions which are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

FENS AND FLUSHES - An NPW habitat classification. Fens are peatlands fed by calcium rich water, either from groundwater or from inflowing surface water. Flushes are wet areas maintained by the seepage of water down slopes of various gradient, and are usually local features. Both are characterised by an abundance of small Sedge forming species-rich mosaics with other species. Orchid species are particularly noticeable in fens and Butterworts are more typical of flushes.

FLORA - plant life.

GEOMORPHOLOGY – The study of the form and structure of the landscape, which is shaped by the underlying geology.

HABITAT - Refers to the environment defined by specific abiotic and biotic factors, in which a species lives at any stage of its biological cycle. In general terms it is a species home. In the Habitats Directive this term is used more loosely to mean plant communities and areas to be given protection.

HABITATS DIRECTIVE - (Council Directive 92/43/EEC). The Directive on the conservation of Natural Habitats and of Wild Flora and Fauna. This Directive seeks to legally protect wildlife and its habitats. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

HUMMOCK - A small hillock/mound. Often used to describe the surface of active bogs where the ground forms a pattern of mounds, hollows and pools. Such hummocks commonly comprise bog mosses.

HYDROLOGY - The movement of water through a catchment area including freshwater and seawater inputs, water level changes and drainage mechanisms which are all influenced by the underlying geology.

INVERTEBRATES - Animals without backbones.

LATITUDE – The angular distance measured in degrees north or south of the equator.

LEVELLING - A process carried out to establish the gradient of sloping ground.

LIAISON - Communication and contact between two groups.

LIAISON COMMITTEE - This is a special group set up to discuss the contents of a conservation management plan and the implementation of the plan. The committee will include representation of landowners, right-holders and other interest groups. It shall be the function of the committee to advise NPW managers on the interaction between site conservation management and local interests. The Liaison Committee will nominate a member to the official Appeals Board which will consider appeals against site designation and other issues. The Liaison Committee will be independent from the NPW.

LIMESTONE - Sedimentary rock composed predominantly of calcium carbonate, often containing fossils.

LOCAL – A term used in ecology which is applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. Local applies to 26-75, 10 km squares in this context.

MANAGEMENT - a) Controlling processes within a site (this can be actively carrying out work or can be doing nothing), preferably in accordance with a conservation plan. - b) The practical implementation of the management plan. - c) Undertaking any task or project identified in the management plan, including the identification of new opportunities.

MANAGEMENT AGREEMENTS - The Wildlife Act, 1976, enables DELG to enter into voluntary management agreements with private landowners. Under these agreements landowners will manage their lands to ensure that desirable wildlife habitats and species are protected. Payment for such responsible management may be agreed. However, the number and type of such agreements will vary depending on the resources available to the National Parks and Wildlife at the time.

MANAGEMENT POTENTIAL - This describes the effect of the constraints and modifiers on the ideal objectives and details the possible outcome of management of the site.

MARGINAL VEGETATION - At or near the margin or border, often used to describe the vegetation at the edge of a lake or river.

MECHANICAL PEAT EXTRACTION - Refers to the use of machinery to cut peat. This includes extrusion cutting such as by sausage machine (e.g. Difco) or any other type of mechanical cutter (e.g. Hopper).

MITIGATE - To make or become less severe or harsh / moderate.

MONITORING – A repeat or repeats of a survey using the same methodology. Designed to look for or measure specific changes and the rate or extent of change. Used to check the “health” quantity or quality of a habitat or species.

MULTIPLE PRIVATE OWNERSHIP- Lands that are divided into areas which are privately owned. There must be more than one private landowner under this heading. (lands in commonage are not described under this heading).

NATIONAL PARKS AND WILDLIFE (NPW) – the section of the Environment Infrastructure and Services division of the Department of Environment and Local Government with responsibility for nature conservation and implementation of Government conservation policy as enunciated by the Minister for the Environment and Local Government.

NATURA 2000 - A network of sites across the European Community, selected for the purpose of conserving natural habitats and species of plants and animals which are rare, endangered or vulnerable in the European Community. SACs and SPAs form the Natura 2000 network.

NATURAL HABITAT - Can be aquatic or terrestrial areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural.

NHAs - Proposed Natural Heritage Areas. These are areas that are important for wildlife conservation. Some of these sites are small, such as roosting areas for rare bats; others can be large such as a blanket bog or a sand dune system.

NOTABLE SPECIES - Plants or animals which are worthy of mentioning either because they are particularly typical of a habitat, or because they are rare/ scarce/ atypical.

NOTIFIABLE ACTIONS - Actions specified under the cSAC regulations and are listed in the appendices of a conservation plan. These are actions which could cause damage to the site, and for which prior approval is required before they can be carried out.

NPW - National Parks and Wildlife

OS – Ordnance Survey

PATROL MONITORING - Regular monitoring of a site usually carried out by the Conservation Ranger to check for damaging activities and to carry out other activities such as to assess the vegetation, to assess the effectiveness of the management regime on the condition of the site, etc.

PEAT CUTTING BY HAND. - See hand cutting of peat.

PEAT CUTTING BY MACHINE - See mechanical peat extraction.

PERMEABILITY - The capacity of a rock to transmit fluid.

POACHING - Damage caused to the vegetation by excessive numbers of large grazers.

PRECIPITATION - Water moving from the atmosphere to the ground in the form of rain, fog, mist, snow or hail.

PRIORITY HABITAT - A subset of the habitats listed in Annex I of the EU Habitats Directive. These are habitats which are in danger of disappearance and whose natural range mainly falls within the territory of the European Union. These habitats are of the highest conservation status and require measures to ensure that their favourable conservation status is maintained.

PRIORITY (setting) - put to determine which objectives, strategies, programmes or tasks will be carried out first, if resources (financial, technological and manpower) are limited, and do not allow all to be carried out.

PROGRAMME - When several closely related tasks are grouped together to achieve an objective.

RAISED BOG - An NPW habitat classification characterised by an elevated dome of peat, the surface of which is isolated from the surrounding ground water table and receiving water solely from precipitation. The peat surface is wet, often with pools and hummock hollow systems and is usually dominated by *Sphagnum* mosses and bushy Heather, with Deer-grass, Bog Cottons and

other associated species. Raised bogs can be distinguished from blanket bogs by their paucity of grasses which typify blanket bog.

RARE - An ecological term applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. A species is described as rare if it has been recorded in 3-10, 10 km squares.

RECHARGE - The downward movement of water from the soil to the water table.

REPS - Rural Environmental Protection Scheme. This is an Agri-Environmental programme which seeks to draw up agreements with farmers, according to the type of farming, landscape and features on the land. The overall objectives of REPS are to achieve: the use of farming practices which reduce the polluting effects of agriculture by minimising nutrient loss- an environmentally favourable extensification of crop farming, and sheep farming and cattle farming; - ways of using agricultural land which are compatible with protection and improvement of the environment, the countryside, the landscape, natural resources the soil and genetic diversity; - long-term set-aside of agricultural land for reasons connected with the environment; - land management for public access;- education and training for farmers in types of farming compatible with the requirements of environmental protection and upkeep of the countryside.

REPTILES - Cold-blooded vertebrates, most of which are terrestrial, having dry horny skin with scales or plates. Most reptiles lay eggs that have a leathery skin, although some are ovoviviparous.

RIVERS AND STREAMS - An NPW habitat classification describing linear channels of moving water. These are natural features that distinguish them from ditches and drainage channels.

SACs - Special Areas of Conservation have been selected from the prime examples of wildlife conservation areas in Ireland. Their legal basis from which selection is derived is The Habitats Directive (92/43/EEC of the 21st May 1992). SAC's have also been known as cSAC's which stands for "candidate Special Areas of Conservation", and pcSAC's which stands for "proposed candidate Special Areas of Conservation."

SCARCE - This is an ecological term, which is applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. Scarce applies to 11-25, 10 km squares in this context.

SCIENTIFIC MONITORING - this is carried out by the monitoring section of the NPW, whose function here is to ensure that the favourable conservation status of the site is maintained and where possible improved.

SCRUB - An NPW habitat classification which comprises areas with more than 50% cover of shrubs or small trees. There may be scattered standard trees, but in general the canopy height is 5 m or less. This category does not apply to stands of young trees which will eventually grow to a height of more than 5 m.

SEVERELY HANDICAPPED AREA - An EU designation which allows farmers within these areas to avail of extra headage payments and premium payments.

SITE CONSERVATION ASSESSMENT - A critical examination of the management performance and/or management plan or part of the plan, to measure the quality of the management plan and its implementation, carried out by the management organisation (internal audit) or by an independent "authority" not directly associated with the site ("external audit"), usually at the invitation of the management organisation.

SITE POTENTIAL - The possibilities of the site in ecological, social, cultural and/ or economic terms. This is where management aims, when setting their ideal objectives.

SPAs - Special Protection Areas for Birds are areas which have been designated to ensure the conservation of certain categories of birds. Ireland is required to conserve the habitats of two categories of wild birds under the European Birds Directive (Council Directive 79/ 409/ 2nd April 1979). The NPW is responsible for ensuring that such areas are protected from significant damage.

SPECIES - the lowest unit of classification normally used for plants and animals.

STRATEGY - A course of action or a broad approach towards achieving an objective . It is the general thrust of management towards achieving an objective. It is a description of how the objective is to be achieved.

SUCCESSION - The non-seasonal, directional continuous pattern of colonisation and extinction on a site by populations.

SURVEY - a) Study/visit to produce an inventory of what is present / record a situation.- b) Establishing a baseline (study).

TILL - Unconsolidated, unsorted glacial deposits.

TOPOGRAPHY - the study or detailed description of the surface features of a region.

TURBARY – Refers to the right to harvest turf.

TYPICALITY - Assessment of whether a site is typical of the habitat it represents.

ZONING - The division of a nature conservation site (& neighbouring lands) into a number of sub-units. Within each zone the management prescriptions will be reasonably uniform and will differ in type or intensity from the other zones in the plan.

APPENDIX II: REFERENCES

Map References:

- O.S. 1/2 inch (1:126,720) map: 7
O.S. Discovery (1:50,000) map: 32
O.S. 6 inch (1: 10,560) map: MO 62, SO 44

Data Bases :

- NHA database, NPW, Department of Environment and Local Government, 7 Ely Place, Dublin 2.
Natura 2000 database, NPW, Department of Environment and Local Government, 7 Ely Place, Dublin 2.

Photographic Coverage:

- Department of Environment and Local Government, HQ Ely Place, Aerial photo No. 7814, Flight Line 27. Date: 06/1995.
G170 (1970s)
Oblique Photographs, NPW, Department of Environment and Local Government, 7 Ely Place, Dublin 2.
Film No. FO673, Frame Nos. 16-23

Relevant Legislation:

- S.I. No. 94/1997: European Communities (Natural Habitats) Regulations, 1997.
Local Government (Planning and Development) Regulations, 2000.

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APPENDIX III: PHYSICAL PROCESSES AFFECTING THE SITE

Climate

CLAREMORRIS monthly and annual mean and extreme values 1961-1990													
TEMPERATURE (degrees Celsius)	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
mean daily max.	7.2	7.6	9.6	12	14.5	17	18.4	18.2	16.1	13.2	9.5	7.9	12.6
mean daily min.	1.4	1.3	2.3	3.3	5.5	8.2	10.2	9.8	8.1	6.3	3	2.3	5.1
mean	4.3	4.5	5.9	7.6	10	12.6	14.3	14	12.1	9.8	6.2	5.1	8.9
absolute max.	13.1	13.3	20.1	22.3	25.1	29.8	30.5	27.2	23.3	19.9	15.4	14.3	30.5
absolute min.	-11.7	-17.1	-8	-5.5	-3.1	-0.4	0.6	1.1	-1.2	-4	-5.3	-8.3	-17
mean no. of days with air frost	9.7	8.9	6.8	3.9	0.8	0	0	0	0	1.1	6.1	8.3	45.6
mean no. of days with ground frost	16	14.9	13.2	11.5	5.9	1	0.2	0.3	2	4.4	13.1	14.5	97
RELATIVE HUMIDITY (%)													
mean at 0900UTC	91	91	88	84	80	81	84	87	89	92	92	92	88
mean at 1500UTC	86	79	74	69	68	72	73	75	77	81	85	88	77
SUNSHINE (hours)													
mean daily duration	1.45	2.11	2.87	4.4	5.08	4.64	3.79	3.81	3.1	2.39	1.81	1.11	3.05
greatest daily duration	7.8	9.2	11.7	13.7	15.1	15.6	14.8	13.7	12.3	10.1	8.6	7	15.6
mean no. of days with no sun	11	8	6	3	2	2	3	3	4	6	9	12	69
RAINFALL (mm)													
mean monthly total	120.8	83.2	95.5	62.3	77.9	71.1	63.8	96.6	104.3	124.6	118.8	124.1	1143
greatest daily total	33.1	27.9	27.5	19.8	42	74.6	38.8	55	41.6	59.5	49.2	41	74.6
mean no. of days with $\geq 0.2\text{mm}$	22	17	21	17	18	16	17	19	19	22	21	22	230
mean no. of days with $\geq 1.0\text{mm}$	18	14	17	12	14	12	11	14	15	17	17	17	178
mean no. of days with $\geq 5.0\text{mm}$	9	6	7	4	6	4	4	6	7	8	8	8	78
WIND (knots)													
mean monthly speed	10	10	10.2	8.7	8.3	7.9	7.5	7.3	8	9	8.7	9.7	8.8
max. gust	96	85	74	57	62	54	66	54	91	70	70	79	96
max. mean 10-minute speed	59	48	45	36	41	36	39	33	60	46	40	51	60
mean no. of days with gales	1.2	0.9	1	0.1	0.1	0.1	0	0	0.2	0.4	0.5	0.7	5.2
WEATHER (mean no. of days with...)													
snow or sleet	6.5	5.4	4.7	1.9	0.3	0	0	0	0	0.1	1.7	3.5	24.1
snow lying at 0900UTC	2.6	1.4	0.7	0.2	0	0	0	0	0	0	0.3	1.1	6.3
hail	4.2	3.3	5.7	3.6	1.9	0.4	0	0	0.7	1	3	2.7	26.5
thunder	0.4	0.2	0.2	0.3	0.5	0.9	0.9	0.4	0.2	0.4	0.3	0.5	5.1
fog	4.4	2.7	1.9	2.4	1.7	2.3	2.3	4.1	4.1	4.6	3.6	3.7	37.9

APPENDIX IV: NOTIFIABLE ACTIONS

The notifiable actions relating to the habitats that occur within the site are listed below:

- Notifiable Action 4.1 – Raised, Bog, Cutaway Bog and Bog Woodland
- Notifiable Action 5.2 – Scrub
- Notifiable Action 7.1 – Artificial Habitats

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

Please note that where a landowner has a current approved plan under the Rural Environmental Protection Scheme or any scheme which the Minister considers to be equivalent s/he need only notify the Minister of activities not covered in the plan.

SECTION A

Please note that the activities listed in *Section A overleaf* are required to be notified to the Minister for The Environment and Local Government and should not be undertaken before consent.

SECTION B

Please note that the activities listed in *Section B overleaf* may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).

If so, these notifiable actions do not apply.

However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment and Local Government.

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

<u>Section A</u>	<u>Section B</u>
<p>THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT</p> <p>grazing of livestock/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>adding lime/adding fertiliser of any sort</p> <p>creation of new tracks or paths</p> <p>burning areas of vegetation reclamation, infilling, or ploughing /reseeding, planting of trees or any other species/cutting trees or removing timber</p> <p>drainage works on the bog or within the local water catchment area</p> <p>cutting turf or peat moss extraction</p> <p>use of any pesticide or herbicide, including sheep dip</p> <p>dumping, burning or storing any materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. botanical tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p> <p>erecting or operating a windfarm</p>

In a very limited number of cases it may be necessary for the Minister for The Environment and Local Government to restrict existing activities. In these cases compensation will be payable for actual losses arising out of any such restriction. In the event of restrictions being imposed by the Minister for The Environment and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 5.2

SCRUB

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

Please note that where a landowner has a current approved plan under the Rural Environmental Protection Scheme or any scheme which the Minister considers to be equivalent s/he need only notify the Minister of activities not covered in the plan.

<u>SECTION A</u>	<u>SECTION B</u>
<p>Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment and Local Government and should not be undertaken before consent.</p>	<p>Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment and Local Government.</p>

HABITAT TYPE 5.2

SCRUB

<u>Section A</u>	<u>Section B</u>
<p>THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock (as defined in approved farm plans)</p> <p>adding lime /adding fertiliser of any sort</p> <p>reclaiming land covered by scrub; if scrub is cut it must be allowed to regrow</p> <p>reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>felling of trees, removal of timber</p> <p>removal of foliage, moss or other materials</p> <p>killing ivy</p> <p>use of any pesticide or herbicide /dumping, burning or storing any Materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. walking tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which may cause pollution of the site</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>felling trees or reafforestation</p>

In a very limited number of cases it may be necessary for the Minister for The Environment and Local Government to restrict existing activities. In these cases compensation will be payable for actual losses arising out of any such restriction. In the event of restrictions being imposed by the Minister for The Environment and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 7.1

DITCHES, HEDGES, CEREALS AND INTENSIVE GRASSLANDS, WALLS, BUILDINGS, WASTE GROUND, BARE SOIL, PARKLAND GRASSLAND, BRACKEN, CAVES, OR QUARRIES

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

Please note that where a landowner has a current approved plan under the Rural Environmental Protection Scheme or any scheme which the Minister considers to be equivalent s/he need only notify the Minister of activities not covered in the plan.

<u>SECTION A</u>	<u>SECTION B</u>
Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment and Local Government and should not be undertaken before consent.	<p>Please note that the activities listed in Section B overleaf may, and in most cases do, require a licence or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment and Local Government.</p>

HABITAT TYPE 7.1

DITCHES, HEDGES, CEREALS AND INTENSIVE GRASSLANDS, WALLS, BUILDINGS, WASTE GROUND, BARE SOIL, PARKLAND GRASSLAND, BRACKEN, CAVES, OR QUARRIES

<u>Section A</u>	<u>Section B</u>
<p>THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT</p> <p>disturbance of bats</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including sports pitches, caravan or camping facilities.</p> <p>developing roads or car parks</p> <p>construction of fences, buildings and embankments</p> <p>afforestation</p>

In a very limited number of cases it may be necessary for the Minister for The Environment and Local Government to restrict existing activities. In these cases compensation will be payable for actual losses arising out of any such restriction. In the event of restrictions being imposed by the Minister for The Environment and Local Government, an appropriate appeals procedure will be put in place.

APPENDIX V: COMPENSATION AND APPEALS PROCEDURES

Compensation

The Government is committed, as part of the social partnership process, to the payment of a fair and proper level of compensation to landowners who have lands proposed as part of an SAC or SPA and to other users who have a legal entitlement in the site.

A landowner or user with a legal entitlement may seek compensation for actual losses incurred due to restrictions imposed as a result of designation. Eligible persons should submit to NPWS details of the losses incurred as a result of the inclusion of lands in an SAC/SPA and outlining the basis for the calculations. Documentary evidence of past earnings and the activities that produced these should be included with the claim. Should the applicant be dissatisfied with a compensation offer, the case may be referred to an independent arbitrator who will review the matter and make a final decision.

Where a landowner or user with a legal entitlement is restricted in carrying out an activity on their land or licensed area, the compensation due will exclude any payments that have been attracted under grant schemes.

For farmers, there are two options available for receiving compensation for possible restrictions to their farming practices. Farmers may also receive payments for carrying out actions that enhance a nature conservation area.

Rural Environment Protection Scheme (REPS)

Lands within SACs, SPAs, NHAs or commonages are defined as 'Target Areas' under this scheme. A REPS plan usually covers an entire farm, but a farmer with land in a target area receives a higher payment for that area. Farmers with small areas of land in a designated area can get REPS payments for that part of their farm. In either case, the farmer is subject to certain conditions regarding farming and land use practices, set out in the REPS plan for the farm. REPS is administered by the Department of Agriculture, Food and Forestry.

NPWS Farm Plan Scheme

Where a farmer chooses not to participate in REPS, and NPWS seeks to change the farm operation in some way or to restrict a particular activity, NPWS will pay for preparation of a farm plan. This scheme also applies to land within SACs, SPAs, NHAs and commonages.

An NPWS farm plan will normally be confined just to the designated land and will address the conservation requirements, as well as any costs arising. Payment may also be made for work carried out that enhances the nature conservation value of the designated area. The farmer will have a substantial input into the plan.

A list of trained and approved farm planners is available for farmers to choose from. For further information, contact NPWS.

Appeals Procedure

Objection or appeal can be made against the inclusion of a piece of land in a cSAC or SPA. A person can only make objections if they have a legal interest in the site (i.e. an owner or legal user). They must be made on scientific grounds, e.g. a landowner would show that the relevant habitats/species/geological features were not present in such a condition as to warrant designation. Appeals can also be made for the inclusion of lands. Appeals should be accompanied by a map of the area of concern and be as informative as possible. There are two stages to the appeals process:

Internal Appeals are initially dealt with by regional staff. If necessary, they may refer the case to other NPWS staff. If there is no agreement following the internal appeal, the case becomes an external appeal.

The option of an **External Appeal** is available only where an internal appeal is unsuccessful. If so, the appellant may have the case referred to an Appeals Advisory Board, which is independent of NPWS. A grant to defray the cost of an expert scientific report is available to the appellant. The Board is comprised of equal representation of landowners/users and conservationists, with an independent chairperson. The Board makes a recommendation on each appeal to the Minister who then decides on the outcome of the appeal.

APPENDIX VI: NATIONAL PARKS AND WILDLIFE MANAGEMENT STAFF

Conservation Ranger

Robert Lundy,
Cashel,
Tubbercurry,
Co. Sligo.
Phone (071) 9185073
Fax (071) 9186209
rlundy@duchas.ie

District Conservation Officer

Tim Roderick,
Old Mill,
Dromahair,
Co. Leitrim.
Phone (071) 9134950
troderick@duchas.ie

Regional Manager

Joe Gatins,
Main Street,
Laghy,
Co. Donegal.
Phone (074) 9721837
Fax (074) 9721674
jgatins@duchas.ie

Deputy Regional Manager

Dave Duggan,
Glenveagh National Park,
Church Hill,
Letterkenny,
Co. Donegal.
Phone (074) 9137090/91/ Fax (074) 9137072
dduggan@duchas.ie

Divisional Manager

Pat Warner,
National Parks & Wildlife Service
Ballinafad
Co. Sligo
Phone/fax (071) 9666178.
pat_warner@environ.ie

Divisional Ecologist

Dr. Cathryn Hannon
Galeybaley
Knockcroghery
Co. Roscommon
Phone (090) 6661370
channon@duchas.ie

National Parks and Wildlife

Department of Environment and Local Government,

7 Ely Place,

Dublin 2.

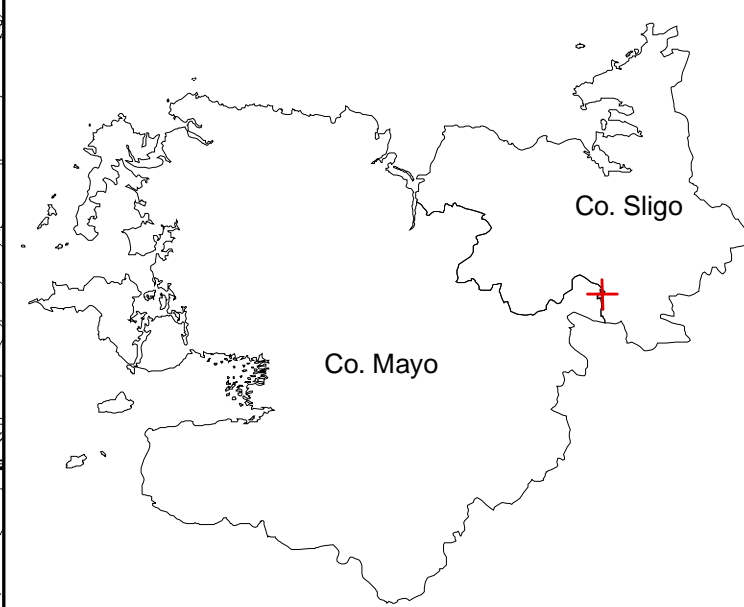
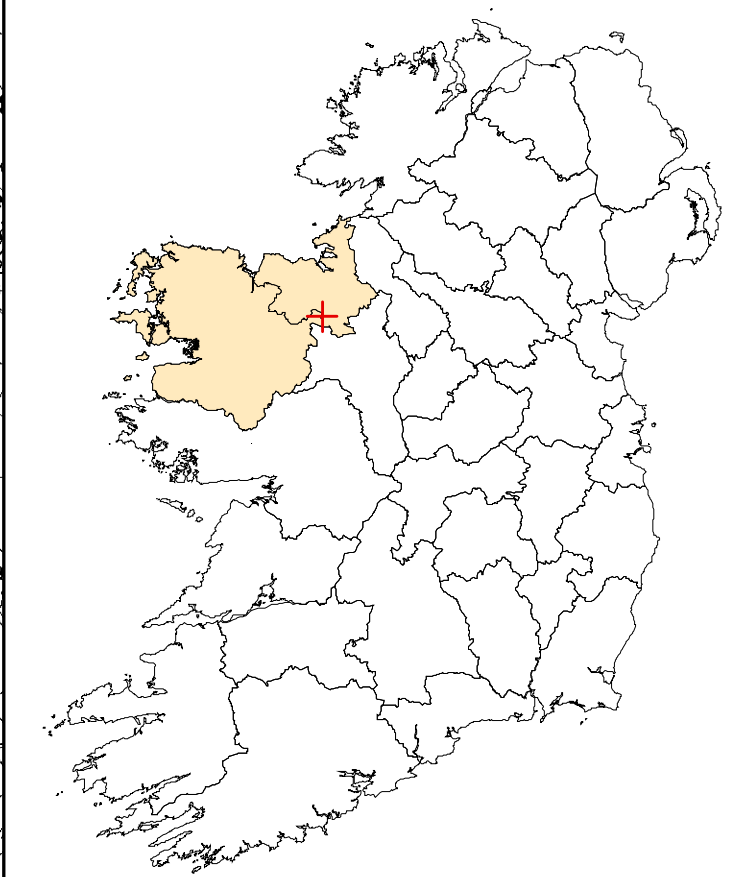
Phone Lo Call 1890 202021, (01) 8882000

Fax (01) 8883272

www.npws.ie

CEANTAR SPEISIALTA CAOMHNAITHE
CANDIDATE SPECIAL AREA OF CONSERVATION
FLUGHANY BOG 000497
Version 1.00

Féadtar athruithe a chur ar an gceantar / Sites subject to revision
(Ní thaispeántar súimh gur de spéis géolaíoch amháin iad) / (Sites solely of geological interest not shown)
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Macasamhail d'ábhar na Suirbhéireachta Ordonáis le cead ón Rialtas (Ceadúnas Uimh 5953)

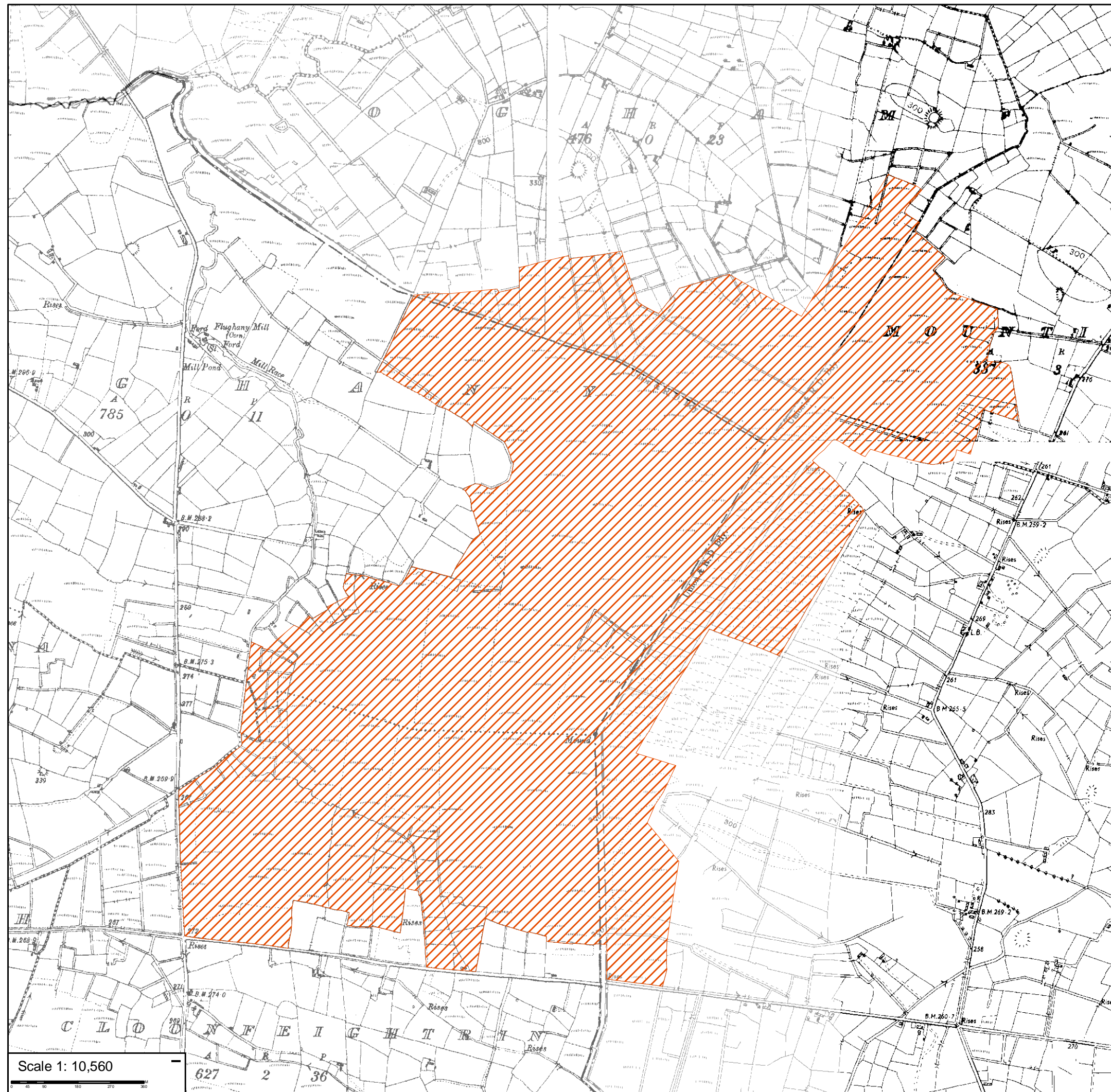


Map 1
LOCATION MAP: FLUGHANY BOG cSAC 000497

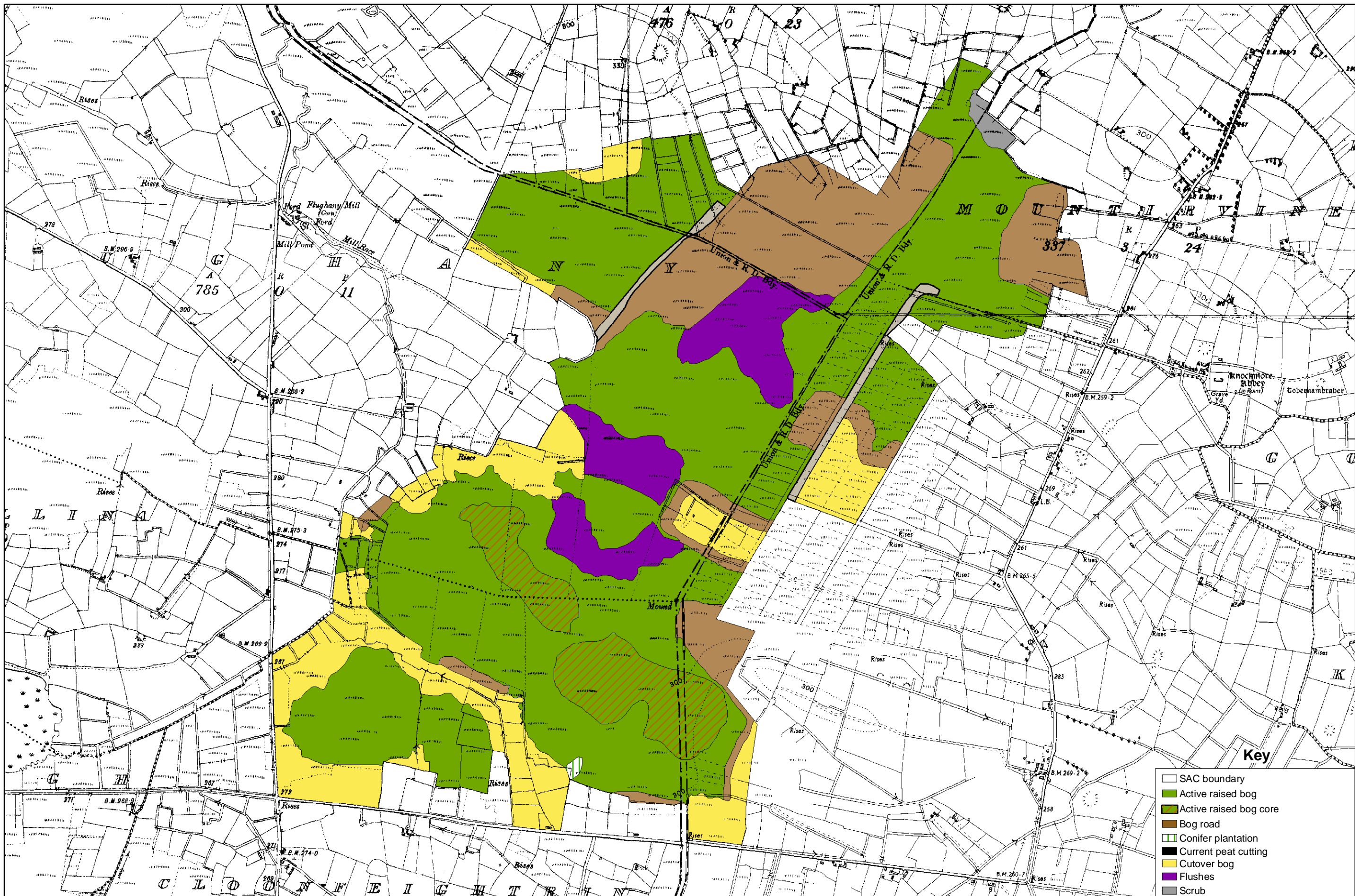
Department of Environment, Heritage and Local Government
An Roinn Comhshaoil, Oidhreachta agus Rialtais Áitiúil



Co-financed through 'Life' EU funding
Chomh-mhaoinithe trí chiste 'LIFE' an AE



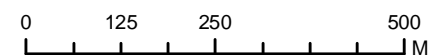
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627 2 36



CEANTAR SPEISIALTA CAOMHNAITHE
CANDIDATE SPECIAL AREA OF CONSERVATION

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number 5953).
Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceanta comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadúnas Uimh. 5953)

FLUGHANY BOG
6" SHEETS MA 052,
SL 038, 039, 044



Scale 1: 10,000

Map 2
GROSS HABITAT MAP

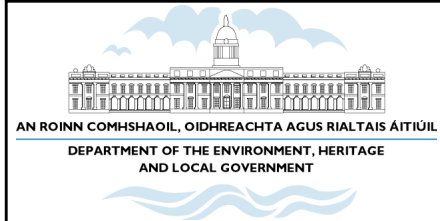
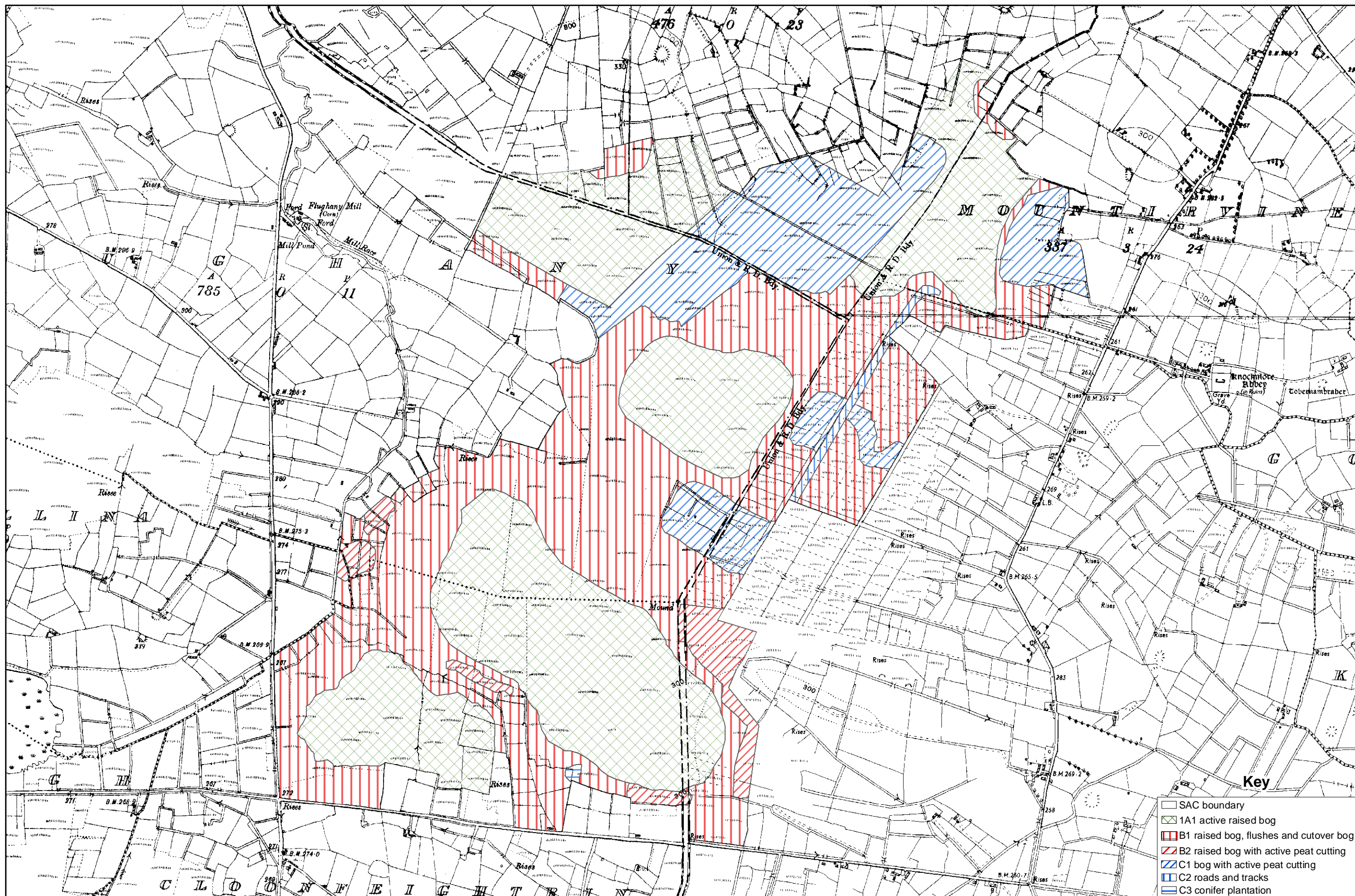
Map to be read in conjunction with conservation plan.

SITE CODE

000497

Version 1.00





CEANTAR SPEISIALTA CAOMHNATHE
CANDIDATE SPECIAL AREA OF CONSERVATION

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FLUGHANY BOG
6 " SHEETS MA 052,
SL 038, 039, 044

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Scale 1: 10,000

Map 4
MANAGEMENT ZONING MAP

Map to be read in conjunction
with conservation plan

SITE CODE
000497
Version 1.00