

National Parks and Wildlife Service Conservation Plan for 2005-2010



Magheradrumman Bog cSAC

Site Code 168
Co. Donegal



SUMMARY

Introduction

Magheradrumman Bog cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive. The site is listed as a cSAC due to the presence of blanket bog (*active only), a priority habitat, and North Atlantic wet heaths with *Erica tetralix*, another habitat listed in Annex I of the EU Habitats Directive.

Description of Magheradrumman Bog cSAC

Magheradrumman Bog cSAC is located on the Inishowen Peninsula in north-east Donegal. It is situated south-east of Carndonagh and approximately 8km north-west of Moville, covering an area including the uplands and hills of Tavash Hill, Puckan Hill, Croaghmore and the Loughs Inn, Fad and Bo. Magheradrumman Bog is the most northerly area of *active blanket bog in the country.

The site is characterised by several different habitats and community types. Active blanket bog surrounded by damaged cutover blanket bog areas dominates the north of the site, with Northern Atlantic wet heath dominating the southern side. Other habitats include lakes (Lough Fad, Lough Inn and Lough Bo), rivers and streams, and upland grassland.

There are extensive areas of blanket bog pools, with interconnecting pool systems surrounded by very wet, quaking flats and occasional flushes. Many of the pools have a very species-rich flora and hummocks are well-developed. The pools contain such species as Lesser Bladderwort, Bogbean and Bog Moss species, with the surrounding areas containing species such as Common Cottongrass, Deer-grass, Black Bog-rush, Ling Heather, Bog Mosses and lichen species. The site supports the rare moss *Sphagnum teres*, which has only been recorded from ten vice-counties in Ireland. Some areas are dominated by Deer-grass and Purple Moor-grass with the moss layer less predominant.

The wet heath is dominated by Ling Heather with Cross-leaved Heath, Bell Heather, Deer-grass, Purple Moor-grass, Tormentil, Heath Rush, Bog Moss species and other mosses. Patches of upland grassland and rock outcrops form a mosaic with wet heath in places.

Notable animal species found on the site include Otter (a species listed in Annex II of the EU Habitats Directive). Lake Fad is an oligotrophic, acidic, mountain lake and supports a population of Arctic Charr, but lacks Brown Trout. This lake is the only current known Irish example of such a unique fish assemblage. Several notable bird species listed in Annex I of the EU Birds Directive have been recorded on the site, including Golden Plover, Red-throated Diver, Merlin, Hen Harrier and Peregrine Falcon. Other notable bird species include Dunlin and Red Grouse.

The site is fragmented by active peat cutting, which continues to impact on the site. Several tracks access these areas. Sheep graze the site, most of which is commonage. There is an outflow regulator/weir that controls the outflow of the water of Lough Fad as part of a public water supply. A water abstraction station is located next to the weir on the southern shores of Lough Fad. There

is a small quarry within the site, although it now appears to no longer be in use. The site is littered with domestic rubbish and old cars.

Main conservation objectives

- To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; active blanket bog (56% of the site) and Northern Atlantic wet heath (40% of the site)
- To maintain other habitats at favourable conservation status, including cutover blanket bog (part of 56% blanket bog), lakes (3.5%), rivers and streams (0.5%) and upland grassland (part of 40% heath)
- To maintain the populations of notable species on the site at favourable conservation status particularly the Annex I Habitats Directive species Otter, Annex I Birds Directive species (Golden Plover, Red-throated Diver, Merlin, Hen Harrier and Peregrine Falcon) and other notable species that are vulnerable or important in a national or international context, including Arctic Charr, Frog, Dunlin, Red Grouse, the Irish Hare and the moss *Sphagnum teres*
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities

Main management issues

- Peat cutting and drainage on the *active blanket bog and sensitive cutover blanket bog areas
- Dumping of rubbish on the site
- Sheep grazing
- Water abstraction from Lough Fad

Main strategies to achieve objectives

- Control peat cutting and drainage on *active blanket bog areas and other sensitive areas
- Maintain sustainable grazing at the current levels
- Increase control of other damaging activities such as dumping and excess water abstraction
- Monitoring of potential damaging activities to all the habitats and of the status of notable plant and animal species
- Liaise with various organisations and groups regarding management of the site

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Map 4 Management Zoning Map

READER'S GUIDE

The National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government (DEHLG) 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 purpose of this draft is to provide stakeholders the opportunity to input into the development of the plan.

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

The **Site Description** section contains **general information** on the site's boundaries and ownership and on the statutory bodies with responsibility for its conservation. It also contains sections on the **physical aspects** of the site such as the 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 **Conservation Value** section assesses the main ecological attributes of the site.

The **Management Framework** 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 are proposed to achieve the conservation objectives. 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, **reference material** consulted in the preparation of the plan and a list of **notifiable actions** relevant to each habitat within the site.

By preparing, implementing and reviewing this plan on a five-year basis, DEHLG aims to achieve the objectives of the EU Habitats Directive in relation to this 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 seminatural 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.

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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 Designation of Magheradrumman Bog cSAC

HABITATS LISTED IN ANNEX I OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
Blanket bog (*active only) (EU Habitat Code 7130)	This site is important due to the presence of Atlantic blanket bog (a priority habitat), with some extensive intact, good quality areas. This site represents a northerly example of this habitat and supports the rare moss <i>Sphagnum teres</i> . Magheradrumman Bog is one of the most northerly intact *active blanket bogs in Ireland.
Northern Atlantic wet heaths with Erica tetralix (EU Habitat Code 4010)	This habitat is extensive at this site with good quality areas. This site also represents one of the most northerly examples of this habitat.

Implications of Site Designation for Landowners and other Site Users

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

In cases where users with a legal entitlement 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 a user with a legal entitlement wishes to carry out certain activities, not covered by licence or consent from another statutory body, within the designated area, they must consult with, and get consent from, the Minister for the Environment, Heritage and Local Government. These activities are listed as "Notifiable Actions" for each habitat (see Appendix V).

The designation of the site can be appealed by landowners and legal users on scientific grounds. Details of the appeals procedure are also given in Appendix VI.

SITE DESCRIPTION

Location Including Site Boundaries

This site is found on the Inishowen Peninsula in Co. Donegal. It is located south-east of Carndonagh and approximately 8km north-west of Moville and covers an area including the uplands and hills of Tavash Hill, Puckan Hill, Croaghmore and the Loughs Inn, Fad and Bo (Map 1).



View of Lough Fad, Magheradrumman cSAC (photo taken by Dr Fran Igoe, Irish Charr Conservation Group).

Grid Ref.: C 52 41
Latitude: N 55°12'
Longitude: W 08°53'
Area: 998 ha

Altitude Range: 150 m to 301 m

Townlands: Baskill, Oort, Aghaglassan, Magheradrumman, Keeranbane, Meenaleavin,

Drung, Ballyargus, Carrickmaquigley, Tullynavinn, Tullyally and

Moneydarragh

Site Boundaries

The majority of the boundaries are unmarked on the ground. Some boundaries coincide with townland boundaries, bog roads, old enclosure boundaries, the edge of Lough Inn, parts of the Loughlin River, Black River and Drung River. The adjacent land is mainly blanket bog, wet grassland, and wet heath areas that are part of commonage and farmland (grazing). Much of the blanket bog has been damaged by peat extraction.

Site Infrastructure

There are several roads and tracks on the site, some of which are boundaries, leading to peat extraction areas. A water abstraction station is located on the northern shore of Lough Fad, with a weir on the outflow from the lough. A quarry is located on the site, though it appears not to be in use.

Legal Status

Ownership

The majority of the site is held in commonage (approximately 95%) (see Map 2). Areas of the site around Tavash Hill and around the southern borders are privately owned. Donegal County Council own the water abstraction station located on the northern shore of Lough Fad.

Designations of the Site

candidate Special Sitecode IE0000168 Published on 1st March 1997

Area of Conservation

proposed Natural Sitecode 168 Unpublished

Heritage Area

Past Status and Designation of the Site

This site was originally surveyed as a National Heritage Area (NHA) in 1994 with the site based on three disconnected blocks of relatively intact habitats separated by some damaged areas. This site was upgraded to a proposed candidate SAC and a conservation plan was prepared in 1997. The conservation plan proposed to alter the boundaries to include some adjacent areas of conservation interest and exclude some damaged areas. These boundary changes were carried out in 1999 and the site nearly doubled in area. The site was designated as a cSAC in 1999.

Rights Pertaining to the Site

Commonage The majority of the site is within commonage (Map 2).

Rights of turbary Local people have turbary rights on blanket bog within this site.

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Government Departments and Agencies

Department of the Environment, Heritage and Local Government (DEHLG)

National Parks & Wildlife Service (NPWS)

DEHLG is the government department with responsibility for the protection and conservation of Ireland's natural heritage.

NPWS is the section of the DEHLG responsible for maintaining the nature conservation value of the site. Periodic inspection of the site is carried out by the local Conservation Ranger.

Regional staff also participate in research and survey projects by collecting data on the site, provide advice to planning authorities on the impacts of development applications and provide an education and advisory service to the public (see Appendix VIII) for further details of NPWS regional staff.

Donegal County Council Donegal County Council is the planning authority for the site. As such they are obliged to ensure appropriate assessment of the implications of developments requiring planning permission that may have an impact, either individually or in combination with other developments on the designated area.

Environmental Protection Agency (EPA) The EPA is an independent state sponsored body with a wide range of statutory duties including monitoring environmental quality and overseeing the performance by local authorities of their statutory environmental protection functions.

Department of Communications, Marine and Natural Resources (DCMNR) The DCMNR is responsible for licensing and regulating fishing, aquaculture, commercial and other development below mean high water; and under Regulation 31 of the EU Natural Habitats Regulations, for ensuring that such activities in the cSAC do not adversely affect it. Monitoring functions are carried out by individual divisions of the department and by the executive agencies under its direction namely the Central and Regional Fisheries Boards, The Marine Institute and an Bord Iascaigh Mhara.

The Loughs Agency/ Gniomhaireacht na Lochanna/Factrie Fur Loughs The Loughs Agency is the fisheries body under the All Ireland, Foyle, Carlingford and Irish Lights Commission. It has responsibility for several river catchments in Donegal (i.e the Finn, The Foyle).

Local Authority Policy in relation to the Site

It is stated in the County Development Plan (2000) for Donegal County Council that:

"It is EU policy that any developments undertaken within an NHA are compatible with the environment, if they are not compatible they will not be afforded EU Grant Aid. The proposed Natural Heritage Areas reflect the rich and diverse heritage resource which survives in the County. The Council views them in a positive rather than negative light. Like other heritage resources they can contribute, in themselves, to the wealth of experience and opportunity which the County offers to residents and visitors. The Council will work with relevant authorities, voluntary and community groups, to optimise the contribution of these and other heritage resources to the sustainable development of the county." The area of the Magheradrumman Bog cSAC is given a landscape character of 3 ("areas of highest quality landscape in the county, with characteristics of wilderness, and few if any manmade structures") in the County Development Plan (2000), which means that it is the Council's policy "to preserve the amenities of the highest quality scenic landscapes in the county and only very limited further development will be considered in these areas".

Physical Features

Climate

The closest synoptic weather station to the site is at Malin Head and the 30 year (1961-1990) average data from this station are displayed in Appendix III. This station receives a mean annual rainfall of about 1060mm. The mean daily air temperature at this station is 9.2°C ranging from a mean low of 5.2°C in February to 14.0°C in August. Mean monthly wind speeds range between 13.2 - 19.0 knots. There is an annual average of 25 days with sleet or snow recorded.

Geology & Geomorphology

Geologically, the area is underlain by metamorphosed sandstone. The topography of the site is characterised by a plateau with some gentle sloping areas.

Soils & Soil Processes

Peat covers most of the site with rocks protruding in places. Peat cutting is being carried out on the site in some places (Map 3).

Hydrology & Water Quality

The headwaters and upper reaches of several streams and rivers occur within the site. Some of these streams drain into Lough Inn and Lough Fad. The outflow from Lough Fad is controlled as part of the public water supply. The Struhanfreagh Stream and River Pollan Burn both rise in the north of the site and join the Black River. The Black River and Loughinn River (outflow of Lough Inn) both flow north-west off the site and join to form the Glenagannen River, while the Drung River flows south-east off the site.

The Glenagannen River is a Salmon (*Salmo salar*), Brown and Sea Trout (*Salmo trutta*) fishery, while Lough Inn is a Brown Trout fishery (for details see website Go.Ireland.com). There are no EPA water quality stations on any of the rivers within the site although water quality in the Glengagannen River, downstream of the site is rated as unpolluted (McGarrigle *et al.*, 2002). The water quality in the Drung River, downstream of the site is rated as slightly polluted/eutrophic downstream of the site (McGarrigle *et al.*, 2002). The water quality of Lough Fad was measured in 2000 and was rated as oligotrophic with a max-chlorophyll value of 1.2 μg/l, with value as a game fishery (McGarrigle *et al.*, 2002).

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Biological Features

Habitats and Vegetation

Note: Throughout the conservation plan, habitats are named and described under two different systems: the Annex I habitats are as listed in the EU Habitats Interpretation Manual Version 15/2(1999), while all other habitats are as listed according to the NPWS NHA classification system.

The following table lists the habitats within the site. The Annex I habitats of the Habitats Directive for which the site was selected are listed, with the relevant NHA habitats category also shown. Annex I priority habitats are marked with an asterisk (*). The Indicative Habitat map for the site is presented in Map 3. The percentage area presented for each habitat type is based on the approximate geographic area of each habitat, as shown in Map 3.

Habitats Found within Magheradrumman Bog cSAC

ANNEX I HABITAT TYPE	HABITAT CATEGORY	% AREA
*Blanket bog (*active only) (EU Code 7130)	Upland blanket bog	56% (including cutover areas)
Northern Atlantic wet heaths with <i>Erica tetralix</i> (EU Code 4010)	Heath	40% (including upland grassland)
-	Lakes and ponds	3.5%
-	Rivers and streams	0.5%
-	Cutover blanket bog	(in mosaic with blanket bog)
-	Upland grassland on peaty soil	(in mosaic with wet heath)

Annex I Habitats:

Blanket bog (*active only) (7130) (56% of total site area or559ha)

This blanket bog falls into the category of mountain blanket bog, lying between 143m-280m in altitude. The site has a diversity of community types including well-developed pool and hummock systems. Several intact areas of blanket bog occur that are fragmented by extensive peat cutting in and around the site. A good variety of Bog Mosses are represented within the site, including the rare *Sphagnum teres*, which has only been recorded from ten vice-counties in Ireland.

The blanket bog has a well-developed complex of inter-connecting pools similar to those found on Atlantic blanket bogs. These contain such species as Lesser Bladderwort (*Utricularia minor*), Bog Sedge (*Carex limosa*), Bogbean (*Menyanthes trifoliata*) and Bog Mosses (*Sphagnum spp.*). Pool margins are colonised by Great Sundew (*Drosera anglica*), *Sphagnum papillosum* and *S. magellanicum* with stands of Soft Rush (*Juncus effusus*) also occurring. Common Cotton-grass (*Eriophorum angustifolium*) and Bog Asphodel (*Narthecium ossifragum*) are found around the pools and in wet channels. The herb layer is dominated by Deer-grass (*Trichophorum caespitosum*) and Common Cotton-grass, with abundant Black Bog-rush (*Schoenus nigricans*) and infrequent Purple Moor-grass (*Molinia caerulea*).

Blanket bog (*active only) (7130) (contd)

There are various types of hummocks present between the pools. Some are formed by *S. capillifolium* and *S. papillosum*, and are topped by Ling Heather (*Calluna vulgaris*) and the lichen *Cladonia portentosa*. Others are composed of *S. imbricatum* and *S. fuscum*.

The vegetation changes across the site with several small areas to the south end of the blanket bog dominated by Purple Moor-grass (*Molinia caerulea*), Deer-grass and frequent Common Cotton-grass. Some of these areas could be classed as wet grassland. This habitat is not delineated on the habitat map (Map 3).

(See Appendix IV for a more detailed description).

Northern Atlantic wet heath with Erica tetralix (4010) (40% of total site area or 399ha) Wet heath is predominant in the south of the site on Tavish Hill, Puckan Hill and Croaghmore. These hills were dominated by Ling Heather (30-40cm tall) with good ground cover of mosses and lichens. Other species recorded from the heath on Puckan Hill include Cross-leaved Heath (*Erica tetralix*), Bell Heather (*Erica cinerea*), Deer-grass, Purple Moorgrass, Tormentil (*Potentilla erecta*), Milkwort (*Polygala serpyllifolia*), Heath Rush (*Juncus squarrosus*), Bilberry (*Vaccinium myrtillus*) and Hard Fern (*Blechum spicant*). Mosses include *Sphagnum capillifolium*, *S. papillosum*, *Rhytidiadelphus loreus*, *Hypnum jutlandicum*, *Dicranum scoparium*, *Racomitrium lanuginosum*, *Aulacomnium palustre*, *Hylocomium splendens*, *Plagiothecium undulatum*, *Polytrichum alpestre* and the liverwort *Scapania gracilis*.

Some acidic flushes occur with Soft Rush and Bulbous Rush (*Juncus bulbosus*), and the mosses *Sphagnum palustre*, *S. recurvum*, *S. auriculatum* var. *auriculatum*, *S. cuspidatum* and *Polytrichum commune* being more predominant.

The upland grassland occurs with wet heath and is found in some drier areas above Lough Bo, forming a mosaic with rock outcrops.

(See Appendix IV for a more detailed description).

Other Habitats:

Lakes and ponds

There are three lakes within the site, Lough Fad, Lough Inn and Lough Bo. Lough Fad is an oligotrophic, acidic mountain lake that has a stony and mud bottom, with a maximum depth of about 18m (Dr Fran Igoe, Irish Charr Conservation Group, *pers. comm.*, 2003). The lake is fringed by Soft Rush and Shoreweed (*Littorella uniflora*). The lake supports a population of Arctic Charr (*Salvelinus alpinus*). Lough Inn and Lough Bo are similar to Lough Fad. Lough Bo is largely overgrown with vegetation with some small patches of open water.

Rivers and streams

The headwaters of several streams and rivers rise within the site with other streams cutting across the site. The outflow stream from Lough Fad was stagnant and filled with vegetation. The NHA site card suggests that the stream was a potential spawning ground for the Arctic Charr.

Cutover blanket bog

This habitat occurs around the edges of the intact blanket bog. These areas are re-vegetating. The rare *Sphagnum teres* occurs on a regenerating cutover at the north of the site (Area 1, Map 3). Other areas have bare peat surfaces. Some areas are classed as active areas of peat extraction and other areas are classed as old cutover blanket bog.

(Areas of active peat cutting are mapped separately on the habitat map. Old cutover blanket bog is mapped with the *active blanket bog on the habitat map).

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Upland grassland on peaty soil

This upland grassland habitat occurs in association with wet heath and is found in some drier areas above Lough Bo, forming a mosaic with rock outcrops and containing Common Bent (*Agrostis capillaris*), Purple Moor-grass, Carnation Sedge (*Carex panicea*), Heath Bedstraw (*Galium saxatile*) and the mosses *Rhytidiadelphus squarrosus* and Silver-haired Moss (*Racomitrium lanuginosum*). This habitat is mapped in mosaic with wet heath and is not delineated on the habitat map (Map 3).



Bog Moss (Sphagnum spp.) (photo by Marie Dromey)

Notable Flora:

One notable moss species has been recorded on the site, *Sphagnum teres*, which is known from only ten vice-counties in Ireland (Douglas *et al.*, 1990). Several other species recorded at the site including the moss *Sphagnum imbricatum*, the lichens *Cladonia ciliata* var. *tenuis*, *C. portentosa* and *Cladopodiella fluitans* were new records in north-east Donegal (Douglas *et al.*, 1990).

Fauna:

Fish

Lough Fad supports a population of Arctic Charr, which is listed as 'Vulnerable' in the Irish Red Data Book (Whilde, 1993). The Irish Charr Conservation Group carried out a survey of Lough Fad in October 2003 and recorded only Arctic Charr in their nets (Dr Fran Igoe, *pers. comm.*). No other fish species were taken and research by the group into the background fishery history supports the view that Arctic Charr may be the only fish species (certainly the only salmonid species) present in the lake. This is a very unique occurrence and the only current Irish example of such a unique fish assemblage. This makes the Lough Fad of particularly significant scientific and conservation interest.

Lough Inn may also support Arctic Charr.

Amphibians and Reptiles

Common Frog (*Rana temporaria*) is breeding on the site. This species is listed in Annex V of the EU Habitats Directive, listed as 'Internationally Important' in the Irish Red Data Book (Whilde, 1993).

Birds

Several species listed under Annex I of the EU Birds Directive have been recorded on the site. Golden Plover (*Pluvialis apricaria*) (eight breeding pairs in 1997) have been recorded within the site and are likely to be breeding. One pair of Red-throated Divers (*Gavia stellata*) was recorded by the Conservation Ranger on Lough Fad (1994-1997). This species is also thought to use Lough Inn and possibly Lough Bo. Merlin (*Falco columbarius*) and the Hen Harrier (*Circus cyaneus*) have been recorded hunting over the site. A pair of Peregrine Falcons (*Falco peregrinus*) was nesting to the south east of the site and may use the site for hunting.

The Hen Harrier is listed as 'Endangered', Red-throated Diver and Merlin are listed as 'Rare', Golden Plover is listed as 'Vulnerable', and Peregrine is listed as 'Internationally Important' in the Irish Red Data Book (Whilde, 1993).

Other notable species include Dunlin (*Calidris alpina*) (5 breeding pairs in 1998) rated as 'Vulnerable' in the Irish Red Data Book (Whilde, 1993) and Red Grouse (*Lagopus lagopus*).



Dunlin (Calidris alpina)

Mammals

Otter (*Lutra lutra*), a species listed in Annex II of the EU Habitats Directive has been recorded on the site. Otter is listed as 'Internationally Important' in the Irish Red Data Book (Whilde, 1993).

Other notable species include Irish Hare (*Lepus timidus hibernicus*), which is listed as 'Internationally Important' in the Irish Red Data Book (Whilde, 1993).

Other mammal species recorded on the site include Fox (Vulpes vulpes).

Land Use

Land use on the site

Peat extraction

In accordance with turbary rights, extensive peat extraction has occurred within the site. Much of the margins of the site have been cut for peat for an extensive period of time. Old cutover banks are evident on the periphery of the bog. Active peat extraction is still carried out. Peat is cut using mechanical sausage machines and some hand cutting has occurred. Cutting is still being carried out and some new areas may have been damaged recently.

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Grazing Sheep grazing is practised in almost all parts of the site. Most of the land

within the site is unfenced commonage so Sheep are generally free to move around. The impacts of grazing in this area have been assessed during the Commonage Framework Planning Project (CFPP). The relevant framework plan is DG5. The Commonage Framework Plan recommended a stocking reduction of 1.56% in this unit so no destocking is required for this management unit. In general, overgrazing is

not significant at present.

Roads/Tracks There are several tracks within the site that are mainly used for access to

peat cutting areas.

Water supply There is an outflow regulator/weir that controls the outflow of the water

of Lough Fad as part of a public water supply. A water abstraction station

is located next to the weir on the southern shores of Lough Fad.

Quarrying There is a small quarry within the site, although it now appears to be no

longer in use.

Shooting Quigley Point Game Preservation Society and other gun clubs may have

shooting rights in this area.

Dumping The site is littered with rubbish, including household rubbish, scrapped

household appliances (e.g. cookers and fridges) and a number of cars.

Dumping is still being carried out along the roads in this site.

Land use adjacent to the site

Peat extraction The entire site is surrounded by areas used for peat extraction.

Grazing Sheep grazing is practised on private land and commonage adjoining the

cSAC.

Roads/Pathways The site lies adjacent to several minor roads, making access to the site

available from nearly all directions.

Present human

settlement patterns

The area around the cSAC is sparsely settled. However, within a few

miles there are a number of villages and towns.

Past human use

Peat extraction was once carried out on a large scale in numerous parts of the site. In these areas the vegetation has regenerated well. However, many of the old cutover banks have been recut in the last 15 years (approx.).

Recorded Monuments and Other Features

There are no recorded monuments or archaeological features known within this site.

CONSERVATION VALUE OF MAGHERADRUMMAN BOG CSAC

Magheradrumman Bog cSAC supports two habitats listed in Annex I of the EU Habitats Directive, the priority habitat blanket bog (*active only), and Northern Atlantic wet heath. These habitats are also important in a national context.

This site supports an excellent example of blanket bog and is the most northerly *active blanket bog site in Ireland. There is a good diversity of blanket bog communities and species, including complex pool and hummock systems. The intact blanket bog areas are valuable but are fragmented and separated by areas damaged by peat cutting within the site. Despite earlier peat cutting around the edges, the intact blanket bog areas are still quite wet and the hydrology of these areas is still intact. The damaged marginal areas may regenerate to some degree over time. The intact blanket bog is vulnerable to more cutting and to indirect damage from increased drainage around the edges affecting the hydrology of the blanket bog.

The wet heath habitat is in excellent condition and is typical of this habitat type, with extensive Ling Heather cover and little damage from overgrazing and burning. These habitats should be quite stable without further man-induced impacts. Both the *active blanket bog and wet heath habitats contain > 2% of the total area of these habitats designated in Ireland.

The site provides habitat for species listed in Annex II of the EU Habitats Directive such as the Otter. Several Annex I bird species listed in the EU Birds Directive including Golden Plover, Red-throated Diver, Merlin, Hen Harrier and Peregrine Falcon also use the site. Lough Fad within the site supports a population of Arctic Charr and may be the only current Irish example of a lake supporting Arctic Charr without the presence of other salmonid species.

MANAGEMENT FRAMEWORK

Conservation Objectives

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as candidate Special Areas of Conservation. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the EU Habitats Directive, favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, is stable or increasing, and
- the ecological factors that 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 as defined below.

The favourable conservation status of a species is achieved when:

- population data on the species concerned indicate that it is maintaining itself, and
- the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective 1: To maintain the Annex I habitats for which the cSAC has been selected at

favourable conservation status; *active blanket bog (56% of the site) and

Northern Atlantic wet heath (40% of the site).

Objective 2: To maintain other habitats at favourable conservation status, including

cutover blanket bog (part of 56% *blanket bog), lakes (3.5%), rivers and

streams (0.5%) and upland grassland (part of 40% heath).

Objective 3: To maintain the populations of notable species on the site at favourable

conservation status particularly the Annex I Habitats Directive species Otter, Annex I Birds Directive species (Golden Plover, Red-throated Diver, Merlin, Hen Harrier and Peregrine Falcon) and other notable species that are vulnerable or important in a national or international context, including Arctic Charr, Frog, Dunlin, Red Grouse, the Irish Hare

and the moss Sphagnum teres.

Objective 4: To establish effective liaison and co-operation with landowners, legal

users and relevant authorities.

Management Issues

While many activities in or adjacent to the site have the potential to cause deterioration/disturbance, it is important to determine the significance of such activities relative to the conservation objectives at a particular site. To that end, all known potential environmental effects of the sites principal activities (in alphabetical order) have been listed and the biological and chemical impacts that may cause change to the biological communities present have been described.

- Access to Lough Fad
- Burning
- Dumping
- Grazing
- Peat cutting
- Quarrying
- Water abstraction

Access to Lough Fad

There is a track running to Lough Fad from the north that was being used by tractors and was causing damage to the lake shore vegetation (east side). This may be contributing to increased substrate run off into the lake, which could also affect the Arctic Charr population.

Burning

The dense Ling Heather cover in the wet heath habitat is vulnerable to burning. However this has not occurred recently. Uncontrolled burning is detrimental to the conservation of upland habitats.

Dumping

There is a large amount of rubbish dumped within the site, with dumping still being carried out (2003).

Grazing

Sheep grazing is practised on the site. The impacts of grazing on commonage areas of the site have been assessed by the Commonage Framework Planning Project. Stock levels in this area have been set by a Commonage Framework Plan (CP). The relevant framework plan for this site is DG5. Generally overgrazing is not a problem, although it has occurred in some localised areas.

Peat cutting

Extensive areas within the site have been subject to peat extraction. Where cutting is active small shallow drains have been cut. The hydrology of the site is affected by this activity. Peat cutting is still being carried out (2003) and some new *active blanket bog areas may be damaged.

Quarrying

A small quarry is located on the site although it appears not to be in use.

Water abstraction

The outflow regulator/weir controls the outflow of the water of Lough Fad as part of a public water supply. The aquatic habitats and habitats around the lake fringe are vulnerable to significant changes in the water level. The Irish Charr Conservation Group carried out a survey of Lough Fad in October, 2003 and found that in excess of 100% of the outflow stream was being abstracted and the outflow stream was dry. Extensive shoreline areas were exposed and it is likely that Charr recruitment is affected as fluctuating water levels result in dessication of lake spawning beds (Dr Fran Igoe, *pers. comm.*). The outflow stream is now stagnant and has filled with vegetation. The NHA site card suggests that the stream was a potential spawning ground for the Arctic Charr.

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

DEHLG 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 DEHLG 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 (Appendix VII)
- enforcement of Regulations under the Habitats/Birds Directives and the Wildlife Acts

Establish a monitoring regime

The monitoring regime for the site will comprise:

Scientific monitoring Monitoring

Monitoring of the conservation status of the *active blanket bog and wet heath will be done by, or on behalf of, the staff of the Monitoring Section of the NPWS or staff working to NPWS in accordance with the procedures laid down by that section.

Protocols for monitoring Magheradrumman Bog cSAC will be developed, in consultation with other agencies where appropriate, to determine if the site is being maintained at favourable conservation status

Site surveillance

Regular inspection of the site by the NPWS staff, with special attention to the peat cutting and drainage on the intact and cutover blanket bog and grazing on the wet heath 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 and species are listed in Appendix V of this plan. Consent from the Minister may be required before these actions may be carried out within the designated area For example, the grazing of livestock above a sustainable level or cutting turf from intact areas are notifiable actions for the *active blanket bog habitat present on the site.

Specific Strategies

Objective 1.

To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; *active blanket bog (56% of the site) and wet heath (40% of the site).

Strategies:

1.1. Control and minimise impacts of peat cutting

NPWS will monitor the site to ensure that there is no new peat cutting or new drainage on intact *active blanket bog areas.

Cutting may continue in active less sensitive areas (some cutover bog areas).

Machine cutting other than the use of 'sausage machines' will normally be permitted.

On particularly sensitive areas of cutover bog, a complete halt to cutting may be required. In such cases compensation will be determined on a case by case basis, but would be in the region of €784.40 per ha (€317.43 per acre).

Where bank cutting is being carried out, the Conservation Ranger should encourage the traditional practice of covering cutover bog with vegetated sod from the surface of the bank as this encourages the recovery of bog vegetation.

1.2. Manage grazing on commonages

The impacts of grazing on commonage areas of the site have been assessed by the Commonage Framework Planning Project (Commonage Plan (CP) DG5).

The relevant CP (i.e. DG5) recommends a combined de-stocking level of 1.56%. No de-stocking is necessary. The individual CP should be consulted for further details.

The zoning map (Map 4) reflects the findings of the CP assessments, and these are specified in the prescriptions for each individual zone.

On commonages in six western counties (including Donegal), a stock reduction of 30% was implemented in December 1998 for farmers not already in REPS. This is taken into account when applying Commonage Framework Plans.

The current grazing practices should be maintained to prevent overgrazing on the site. A Conservation Ranger should patrol these areas, when possible, and liaise with the relevant REPS planner if overgrazing is evident.

1.3. Manage grazing on privately owned lands

For non-commonage land, NPWS will seek to ensure that sustainable grazing levels are established via REPS and DEHLG farm plans, using a similar methodology applied to commonage areas (see Strategy 1.3).

1.4. Control burning

NPWS will prevent uncontrolled burning. Uncontrolled burning is not desirable and is prohibited under SAC legislation.

1.5. Remove dumped material

NPWS will liaise with the County Council to ensure that waste material such as old cars, fridges etc is removed from this site.

Prevent further 1.6. dumping

NPWS will liaise with Donegal County Council to erect a 'no dumping' sign at several locations around the site near access roads and track.

Objective 2.

To maintain other habitats at favourable conservation status, including cutover blanket bog (part of 56% *blanket bog), lakes (3.5%), rivers and streams (0.5%) and upland grassland (part of 40% heath).

Strategies:

2.1. Maintain current grazing levels

Control grazing in accordance with strategies 1.2 and 1.3.

2.2. Manage rivers and streams and lakes by nonintervention

No intervention is necessary to manage rivers and streams and lakes that occur on the site or on the boundaries. Refer to the notifiable actions for such areas. Modification of the streams that border the site should not be carried out without consultation with NPWS.

2.3. **Monitor** water quality

NPWS will liaise with the EPA and the County Council to request that water quality is monitored at regular intervals on Lough Fad. NPWS will arrange that monitoring is extended to Lough Inn.

2.4. **Maintain water** levels

NPWS will monitor, where possible, the impact of water extraction from Lough Fad for the public water supply on the vegetation, bird life, invertebrate fauna and particularly the Arctic Charr population. NPWS will liaise with Donegal County Council regarding the amount of water abstraction, to prevent the outflow from the lake becoming dry.

2.5. **Monitor** disturbance along track adjacent to Lough Fad

NPWS will monitor disturbance along the track running into the Lough Fad section of the site from the north that was being used by tractors and was causing damage to the lake shore vegetation.

2.6. Control fish stocking

Lakes within the site should not be stocked with coarse fish or Brown Trout.

- 2.7. **Control burning**
- See strategy 1.5.
- 2.8. **Remove dumped** See strategy 1.6. material

Objective 3.

To maintain the populations of notable species on the site at favourable conservation status particularly the Annex I Habitats Directive species Otter, Annex I Birds Directive species (Golden Plover, Red-throated Diver, Merlin, Hen Harrier and Peregrine Falcon) and other notable species that are vulnerable or important in a national or international context, including Arctic Charr, Frog, Dunlin, Red Grouse, the Irish Hare and the moss *Sphagnum teres*.

Strategies:

3.1. Monitor status of notable bird species

NPWS will record numbers, breeding status and nest locations of Golden Plover, Red-throated Diver and Dunlin, where possible, on an annual basis. This will be achieved by regular patrolling of the site by a Conservation Ranger and liaison with other interest groups.

3.2. Monitor status of Arctic Charr

The status of the Arctic Charr in Lough Fad should be studied in more detail to determine the size of the population and their spawning beds. Lough Inn should also be investigated. This will be achieved by liaison with interest groups such as the Loughs Agency and The Irish Charr Conservation Group. The uniqueness of the Lough Fad fish community (with only Arctic Charr) should be highlighted.

3.3. Maintain notable species

Implementation of the general and specific strategies will also protect the notable species (Otter, Golden Plover, Red-throated Diver, Merlin, Hen Harrier, Peregrine Falcon, Dunlin, Arctic Charr, Frog, Irish Hare and the moss *Sphagnum teres*) found on this site.

Objective 4.

To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Strategies:

4.1. Liaise with interested parties

NPWS will strive to initiate and maintain effective liaison with landowners, legal users (particularly through the Liaison Committee), relevant authorities and interested parties on achieving the objectives for conservation of the site.

4.2. Liaise with REPS planners

REPS planners should consult with local NPWS staff when they are developing plans for land within the site.

Zoning

Note: Zoning is the division of a nature conservation site and neighbouring areas into a number of sub-units. Four types of zones are identified (not necessarily all occurring within a site): A, B and C are zone types within the site. D is a zone type outside the site where activities may have an impact on the site. The relevant strategies are listed for each site.

Zone A: A Natural Zone

Areas of high conservation value, that require no or little management intervention.

- 1A: NON-INTERVENTION AREAS
- 1A1: Rivers, streams and lakes

Strategies 2.2-2.6, 3.2 and the general strategies apply.

- 2A: MAINTENANCE AREAS WITH LIMITED MANAGEMENT INTERVENTION
- 2A1: *Active blanket bog, wet heath and upland grassland in commonage (Agricultural units DG5e and DG5I)

These areas have been identified in the Commonage Framework Plan as being undamaged (category U). No de-stocking is required. See the relevant CP for more details. Strategies 1.1-1.2, 1.4-1.6, 2.1, 3.1, 3.3, 4.1 and the general strategies 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.

B1: Cutover blanket bog (Areas of active peat extraction) in commonage (Agricultural Units DG5e)

These areas have been identified in the Commonage Framework Plan as being undamaged (category U). No-de-stocking is required. See the relevant CP for more details. Strategies 1.1-1.2, 1.4-1.6, 2.1, 3.1, 3.3, 4.1-4.2, and general monitoring strategies apply.

B2: Wet heath in private ownership

Grazing assessments are required for these privately owned areas (see Strategy 1.4). Sustainable levels of grazing will be established/maintained. Strategies 1.3-1.6, 3.1, 3.3, 4.1-4.2 and general monitoring strategies apply.

Zone C: Intensive use Zone

Intensively used areas/infrastructure, which form an integral part of a nature conservation site.

C1: Roads, tracks and water abstraction station

Strategies 2.2, 2.5, 4.1 and general monitoring strategies apply.

Zone D: Impact Zone

Areas outside the site where activities may have an impact on the site.

D1: Runoff into Lough Inn

Lough Inn is vulnerable to possible eutrophication from western farmland adjacent to the cSAC.

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.	Control and minimise impacts of peat cutting	Prevent peat cutting and drainage affecting intact *active blanket bog.	NPWS			
1.2.	Manage grazing on commonages	Implement sustainable grazing on the site.	NPWS/ grazing rights holders			
1.3.	Manage grazing on privately owned lands	Conduct grazing assessments.	NPWS/ landowners			
1.4.	Control burning	Prevent uncontrolled burning.	NPWS			
1.5.	Remove dumped material	Dumped material should be removed from this site.	NPWS/ County Council			
1.6.	Prevent further dumping	Erect 'no dumping' signs around the site.	NPWS/ Donegal County Council			
2.1.	Maintain current grazing levels	See strategy 1.3.	NPWS			
2.2.	Manage rivers and streams and lakes by non- intervention	No intervention is necessary.				
2.3.	Monitor water quality	Monitor and maintain water quality of the three lakes.	NPWS/EPA/ County Council			
2.4.	Maintain water levels	Monitor water abstraction from Lough Fad.	NPWS			
2.5.	Monitor disturbance along track adjacent to Lough Fad	Monitor disturbance caused by tractors along the track next to Lough Fad.	NPWS			
2.6.	Control fish stocking	Lakes within the site should not be stocked with fish without prior consultation with NPWS.	NPWS			
2.7.	Control burning	See strategy 1.5.	NPWS			
2.8.	Remove dumped material	See strategy 1.6.	NPWS/ County Council			

TABLE Summary of Specific Strategies CONTINUED.....

	Strategy	Action required	Who to implement	When/Duration/ Frequency	Estimated Total Cost	Additional Resources needed
3.1.	Monitor status of notable bird species	Record populations, breeding status and nest locations of notable species on an annual basis.	NPWS			
3.2.	Monitor status of Arctic Charr	Monitor status of Arctic Charr in Lough Fad and Lough Inn should also be investigated.	NPWS/ Loughs Agency			
3.3.	Maintain notable species	Implement general and specific strategies.	NPWS			
4.1.	Liaise with interested parties	Initiate and maintain effective liaison with relevant parties.	NPWS			
4.2.	Liaise with REPS planners	REPS planners are required to consult with NPWS staff if developing plans for land within the site	REPS planners			

APPENDIX I: GLOSSARY

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 II - of the EU Habitats Directive is a list of species for which SACs have to be designated.

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.

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.

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.

BLANKET BOG - An NPWS habitat classification which refers to bogs which carpet the landscape, following the underlying topography. They can cover extensive areas along the west coast and on uplands throughout the country.

BRYOPHYTES - A group of simple non-vascular spore-bearing green plants comprising the mosses, liverworts and hornworts.

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.

COMMONAGE – An area of land which are undivided but are owned by more than one person / or the rights to use the land are owned by more than one person.

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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.

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

DEHLG - Department of Environment, Heritage 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.

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

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

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.

FLORA - plant life.

FLORA PROTECTION ORDER - under the 1976 Wildlife Act, particular plants can be protected under a Flora Protection Order. Under such an order it becomes an offence to cut, uproot or damage these plants unless under licence from the Minister. The same order prohibits damage to the habitats of these species.

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.

HAND CUTTING OF PEAT. - Refers to traditional cutting of peat using a slean or spade.

HEATH – An NPWS habitat classification comprises vegetation on relatively dry acidic mineral or peat soil usually dominated by Ericaceous shrubs, which include *Calluna vulgaris* (Heather), all Heathers (*Erica* spp.), *Vaccinium myrtillus* (Bilberry), *Empetrum nigrum* (Crowberry), *Arctostaphylos uva-ursea* (Bearberry), *Daboecia cantabrica* (St Dabioc's Heath), or dwarf, cushion forming *Ulex* spp. These shrubs must form a minimum cover of 25% to fall into the heath category. This habitat is frequently found in mosaic with other upland habitats.

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 imputs, water level changes and drainage mechanisms which are all influenced by the underlying geology.

LAKES AND PONDS - An NPWS habitat classification describing enclosed bodies of fresh water, or semi-enclosed bays of larger bodies of fresh water. Only the open water body itself is included, so areas of standing with tall emergent vegetation are not included here but should be assigned to reedbeds and other swamps.

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 NPWS 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 NPWS.

LICHENS – An organism that consists of a fungus growing in close association (symbiosis) with an alga.

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.

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).

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.

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

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.

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.

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 has been recorded in to 3-10, 10 km squares.

RED DATA BOOK 1 (vascular plants) This Red Data Book deals with rare and threatened flowering plants and ferns of Ireland with an account of their present distributions and conservation status.

RED DATA BOOK 2 (mammals, birds, amphibians and fish) - identifies those species threatened in Ireland or those species whose populations are considered to be of international importance, though not necessarily threatened in Ireland. It details the current state of Irish vertebrates and provides a concise summary of the various legislation for each species.

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

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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 pubic access;-education and training for farmers in types of farming compatible with the requirements of environmental protection and upkeep of the countryside.

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."

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 <u>how</u> the objective is to be achieved.

SUPPLEMENTARY FEEDING - The practice of providing livestock with additional food, usually carried out in Winter. This term is most often used when hay, silage or other foods are brought into a site to supply Cattle or Sheep with food during times when growing conditions are poor.

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

SUSTAINABLE - The highest rate at which a renewable resource can be used without reducing its supply (without causing damage to the resource).

TURBARY – Refers to the right to harvest turf.

VERY RARE - 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. Very Rare applies to 1-2, 10 km squares in this context.

ZONING - The division of a nature conservation site (& neighbouring lands) into a number of subunits. 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: REFERENCE MATERIAL

Map References:

O.S. 1/2 inch (1:126,720) map: 2
O.S. Discovery (1:50,000) map: 3

O.S. 6 inch (1: 10,560) map: DL 011, DL 020, DL 021

Databases:

NHA database, NPWS, The Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Natura 2000 database, NPWS, The Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Photographic Coverage:

Aerial photo No. 6819-20, Flight Line 3/4. Date: 1995. NPWS, The Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Relevant Legislation:

S.I. No. 39 of 1976: Wildlife Act 1976

S.I. No. 38 of 2000: Wildlife (Amendment) Act 2000

S.I. No. 94/1997: European Communities (Natural Habitats) Regulations 1997.

Local Government (Planning and Development) Acts 1963-2002.

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APPENDIX III: CLIMATE

TEMPED A TUDE (1 C. l.:)	_					_						_	Т
TEMPERATURE (degrees Celsius)	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
mean daily max.	7.6	7.5	8.7	10.3	12.7	15	16.2	16.6	15.3	13	9.8	8.4	11.8
mean daily min.	3.2	2.9	3.7	5	7.1	9.6	11.4	11.4	10.1	8.3	5.2	4.2	6.8
mean	5.4	5.2	6.2	7.6	9.9	12.3	13.8	14	12.7	10.7	7.5	6.3	9.3
absolute max.	13.9	13.8	19	19.5	24.7	25	27	25.3	23.2	19.6	16	15.1	27
absolute min.	-6.2	-6.2	-4.4	-1.8	-0.5	2.6	5.6	5.2	2	1	-2.5	-5.5	-6.2
mean no. of days with air frost	3.4	3.3	1.6	0.4	0	0	0	0	0	0	0.4	1.8	11
mean no. of days with ground frost	9.6	9.8	7.4	4.3	1	0	0	0	0.1	0.3	3.7	6.7	42.9
RELATIVE HUMIDITY (%)	•	•	•	•									
mean at 0900UTC	83	82	81	79	79	81	84	84	83	83	82	83	82
mean at 1500UTC	80	77	76	76	76	78	80	79	78	78	79	81	78
SUNSHINE (hours)													
mean daily duration	1.2	2.2	3.1	5.1	6.2	5.7	4.3	4.3	3.5	2.4	1.5	0.9	3.4
greatest daily duration	7.5	9.2	11.1	14.1	15.5	16.2	16.1	14.8	11.9	9.4	7.6	6.7	16.2
mean no. of days with no sun	11	7	6	3	2	2	3	3	4	6	8	12	67
RAINFALL (mm)	ı		ı										
mean monthly total	114.4	76.3	85.9	58.4	59.2	64.4	72.4	91.3	102.1	118	114.9	103.2	1060.6
greatest daily total	36.9	24.1	26.3	36.1	29.8	32.5	26.2	41.5	53.5	63.2	56.1	33.5	63.2
mean no. of days with $ >= 0.2mm $	22	17	21	17	17	18	19	20	21	22	22	23	237
mean no. of days with >= 1.0mm	19	13	16	12	12	13	13	15	16	18	18	18	182
mean no. of days with >= 5.0mm	9	6	7	4	4	4	5	6	7	8	8	7	76
WIND (knots)	ı		I							ı			
mean monthly speed	19	18.4	17.9	15.1	14.2	13.2	13.2	13.2	15.7	17.5	18.3	19	16.3
max. gust	91	86	90	69	71	74	74	67	98	76	76	88	98
max. mean 10-minute speed	64	57	67	47	49	52	55	45	66	57	56	59	67
mean no. of days with gales	11.2	8.6	8	3.4	2.3	1.3	0.8	1.5	3.8	6.7	8.7	9.7	66
WEATHER (mean no. of days with)	4	,				•	,		•	1	•	•	-
snow or sleet	6.6	6	4.6	2.4	0.2	0	0	0	0	0.1	1.9	3.9	25.8
snow lying at 0900UTC	0.9	1	0.5	0.1	0	0	0	0	0	0	0	0.8	3.3
hail	8.6	5.8	7.9	4.7	1.9	0.4	0.1	0.1	0.6	3.1	7.9	7.3	48.4
thunder	0.6	0.4	0.4	0.3	0.4	0.8	0.6	0.4	0.4	0.6	0.6	0.6	5.9
fog	0.4	0.5	0.7	1.9	1	2	2.2	1.3	0.6	0.4	0.2	0.4	11.8

Source: Met Eireann

APPENDIX IV: DETAILED INFORMATION ON HABITATS AND FAUNA

Habitats

*Active Blanket Bog

The plant communities within the site have been well documented by a survey report (Douglas *et al.*, 1990). The following descriptions of the plant communities within the site have been taken from this report. The areas are presented on the habitat map (Map 3).

Area 1

Extensive interconnecting pool systems which grade into Atlantic blanket bog pools. The pools contain Sphagnum cuspidatum, S. auriculatum, Lesser Bladderwort, Bog Sedge, Common Cottongrass, Bog Bean (Menyanthes trifoliata) and Many-stalked Spike-rush (Eleocharis multicaulis). Pool margins are colonised by Great Sundew, Sphagnum papillosum and S. magellanicum with stands of Soft Rush. Wet quaking flats surrounding the pools are characterised by Bog Asphodel, the mosses Campylopus atrovirens and Sphagnum tenellum, with some bare patches of peat between the vegetation. The herb layer is dominated by Deer-grass and Common Cotton-grass with abundant Black Bog-rush and infrequent Purple Moor-grass. There are various types of hummocks present; many are formed by Sphagnum capillifolium and S. papillosum and are topped by Ling Heather and the lichen *Cladonia portentosa*, others are composed of *Sphagnum imbricatum* and *S*. fuscum. There are also several hummocks dominated by Silver-haired Moss. Island hummocks occur in a number of Atlantic blanket bog pools and these have a good bryophyte cover with the mosses Hypnum jutlandicum, Dicranum scoparium, and Pleurozium schreberi occurring frequently. Many of the pools appear to be nutrient enriched, possible by the carcasses of dead Sheep, which often fall into these pools and drown. The rare Sphagnum teres occurs in a regenerating cutover on the margin of this area.

Area 2

This area of blanket bog has a number of broad flushed channels with White Beak Sedge (*Rhynchospora alba*), Carnation Sedge, Bog Sedge and the moss *Sphagnum auriculatum* var. *inundatum*. There are abundant low, broad hummocks of *S. imbricatum* in the channels. The area is slightly quaking and very wet. A turbary road runs alongside this area and has caused marginal areas to dry out.

Area 3

This area comprises a small basin mire at the head of a stream/swallow hole complex. The area is characterised by abundant Common Cotton-grass, Bog Bean, Bottle Sedge (*Carex rostrata*), and the mosses *Sphagnum auriculatum*, *S. cuspidatum*, *S. recurvum*, and *S. palustre*. Soft Rush and Bulbous Rush occur less frequently. Bog Pimpernel (*Anagallis tenella*) and *Pellia epiphylla* also occur.

Area 4

Deer-grass dominates this flat area, but the ground is still wet beneath the herb layer. There are several concentrically aligned pools in this area which run perpendicular to a slope of about 2-3°.

Wet Heath

The Heather was in excellent condition in August 1997 on the south slope of the Tavish Hill. Only on the lower slopes of Tavash Hill on the south-south-east side was there a noticeable impact from sheep grazing and some replacement of *Calluna* heath by grasses, Purple Moor-grass and rushes. The area was not damaged by grazing or burning around Puckan Hill.

Wet heath around Croaghmore was similar in composition and structure to Tavash Hill and Puckan Hill. The species assemblage was similar to that found on these other hills with the addition of Bog Myrtle (*Myrica gale*), Bog Asphodel, Bracken (*Pteridium aquilinum*), Harestail Cotton-grass (*Eriophorum vaginatum*), Lousewort (*Pedicularis palustris*), the moss *Pleurozium schreberi* and the liverwort *Lophozia ventricosa*.

Vegetation along the stream banks includes *Salix atrocinerea*, Bracken, Soft Rush, Heath Bedstraw, Bell Heather, Sharp-flowered Rush (*Juncus acutiflorus*), Purple Moor-grass, Hard Fern, the mosses *Sphagnum palustre*, *S. recurvum*, *Polytrichum commune*, *Thuidium tamariscinum* and *Ctenidium molluscum*.

Fauna

Other bird species recorded on the site include Red Grouse (*Lagopus lagopus*), Meadow Pipit (*Anthus pratensis*), Cormorant (*Phalacrocorax carbo*), Woodcock (*Scolopax rustticola*), Raven (*Corvus corax*), Skylark (*Alauda arvensis*), Snipe (*Gallinago gallinago*), Dipper (*Cinclus cinclus*), Buzzard (*Buteo buteo*), and Common Sandpiper (*Actitis hypoleucos*). Woodcock and Red Grouse (droppings) were noted during a survey in 1996 on Tavash Hill.

A quarry adjacent to Lough Inn contained a pair of Peregrine Falcons (*Falco peregrinus*) until recently. On every part of the site the Golden Plover (*Pluvialis apricaria*) could be heard and Red Grouse droppings were noted.

There are no new records of Red-throated Divers (*Gavia stellata*) (post 1997).

APPENDIX V: NOTIFIABLE ACTIONS

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

- Notifiable Action 2.1 Upland grasslands, scree, inland cliff
- Notifiable Action 3.1 Blanket bog
- Notifiable Action 3.2 Heath (including juniper scrub)
- Notifiable Action 5.2 Scrub
- Notifiable Action 6.1 Rivers or streams
- Notifiable Action 6.2 Lakes, ponds, canals

HABITAT TYPE 2.1

UPLAND GRASSLAND, SCREE, AND INLAND CLIFF

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, Heritage 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, Heritage 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.

HABITAT TYPE 2.1

UPLAND GRASSLAND, SCREE, AND INLAND CLIFF

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

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

changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting/adding lime

adding fertiliser of any sort to areas not previously fertilised applying fertiliser which would increase the level of nitrogen in the soil/applying fertiliser which would increase the level of phosphorous in the soil applying phosphorous to soils which already have in excess of the REPS index 2 levels

using fertiliser on slopes over 25 degrees

creation of new tracks or paths

burning of vegetation

reclamation, infilling, ploughing or land drainage reseeding, planting of trees or any other species

rock removal/use of any pesticide or herbicide

dumping, burning or storing any materials

alteration of the banks, bed or flow of watercourses

operation of commercial recreation facilities (e.g. pony trekking)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.

removal of soil, mud, gravel, sand or minerals

developing roads or car parks

construction of fences, buildings or embankments

afforestation

commercial turf cutting

erecting or operating a windfarm

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage 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, Heritage and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 3.1

BLANKET BOG

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, Heritage 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.

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SECTION A

Please note that the activities listed in *Section A overleaf* are required to be notified to the Minister for The Environment, Heritage 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.

HABITAT TYPE 3.1

BLANKET BOG

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

grazing of livestock above a sustainable density or type of stock (as defined in approved farm plans)

grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung

supplementary feeding of stock, except as defined in REPS guidelines/ introduction of stock to formerly ungrazed areas

adding lime/adding fertiliser of any sort

creation of new tracks or paths/burning of vegetation/reclamation, infilling, ploughing or land drainage

reseeding, planting of trees or any other species

rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas

commercial peat moss or turf extraction

use of any pesticide or herbicide, including sheep dip/dumping, burning or storing any materials

alteration of the banks, bed or flow of watercourses

operation of commercial recreation facilities (e.g. pony trekking)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities

removal of soil, mud, gravel, sand or minerals

developing roads or car parks

construction of fences, buildings or embankments afforestation

erecting or operating a windfarm

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage 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, Heritage and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 3.2

HEATH (INCLUDING JUNIPER 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, Heritage 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, Heritage 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.

HABITAT TYPE 3.2

HEATH (INCLUDING JUNIPER SCRUB)

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

grazing of livestock above a sustainable density or type of stock (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung

supplementary feeding of stock, except as defined in REPS guidelines

introduction of stock to formerly ungrazed areas adding lime/adding fertiliser of any sort

Creation of new tracks or paths

burning areas of vegetation over 5 ha, or burning any area more often than once every 15 years

 $reclamation, in filling, ploughing \ or \ land \ drainage$

reseeding, planting of trees or any other species

rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas

commercial peat moss or turf extraction

use of any pesticide or herbicide, including sheep dip

dumping, burning or storing any materials

alteration of the banks, bed or flow of watercourses

operation of commercial recreation facilities (e.g. pony trekking)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities

removal of soil, mud, gravel, sand or minerals

developing roads or car parks

construction of fences, buildings or embankments

afforestation

erecting or operating a windfarm

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage 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, Heritage 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, Heritage 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, Heritage 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.

HABITAT TYPE 5.2

SCRUB

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

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

supplementary feeding of stock (as defined in approved farm plans)

adding lime /adding fertiliser of any sort

reclaiming land covered by scrub; if scrub is cut it must be allowed to regrow

reclamation, infilling, ploughing or land drainage

reseeding, planting of trees or any other species felling of trees, removal of timber

removal of foliage, moss or other materials

killing ivy

use of any pesticide or herbicide /dumping, burning or storing any materials

alteration of the banks, bed or flow of watercourses operation of commercial recreation facilities (e.g. walking tours)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities any activity which may cause pollution of the site removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments

felling trees or reafforestation

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage and Local Government to restrict <u>existing</u> 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, Heritage and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 6.1

RIVERS OR STREAMS

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, Heritage 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.

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SECTION A

Please note that the activities listed in *Section A overleaf* are required to be notified to the Minister for The Environment, Heritage 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.

HABITAT TYPE 6.1

RIVERS OR STREAMS

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

grazing of livestock above a sustainable density

(as defined in approved farm plans) within 30m of the river or stream/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung within 30m of the river or stream

supplementary feeding of stock within 30m of the river or stream/adding lime within 30m of the river or stream/adding fertiliser of any sort within 30m of the river or stream

extracting water for irrigation or other purposes

operation of boat angling or shore angling business/restocking with fish

reclamation, infilling, ploughing or land drainage within 30m of the river or stream/ reseeding, planting of trees or any other species within 30m of the river or stream/ removal of trees or any aquatic vegetation within 30m of the river/stream/

use of any pesticide or herbicide in the river or stream or within 30m of the river or stream

dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them

dumping, burning or storing any materials within 30m of the river/stream including the land spreading of used pesticides (e.g. sheep dip)./alteration of the banks, channel, bed or flow of the river or stream

harvesting or burning of reed or willow

causing siltation/ operation of commercial recreation facilities (e.g. bird watching tours)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities

any activity which might cause pollution of the river or stream

removal of soil, mud, gravel, sand or minerals

developing roads or car parks

construction of fences, buildings or embankments construction or operation of an aquaculture facility

fishing for eels or salmon

bank maintenance and grading creation of weirs and dams

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage 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, Heritage and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 6.2

LAKES, PONDS AND CANALS

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, Heritage 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, Heritage 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.

HABITAT TYPE 6.2

LAKES, PONDS AND CANALS

Section A

THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT

grazing of livestock above a sustainable density as defined in approved farm plans) within 50m of the lake, pond or canal

grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung

supplementary feeding of stock within 50m of the lake, pond or canal

adding lime within 50m of the lake, pond or canal /adding fertiliser of any sort within 50m of the lake, pond or canal

extracting water for irrigation or other purposes

operation of boat angling or shore angling business/restocking with fish

within 50m of the lake, pond or canal: reclamation, infilling, ploughing or land drainage

reseeding, planting of trees or any other species /removal of trees or any aquatic vegetation/use of any pesticide or herbicide in the lake, pond or canal or within 50m of the lake, pond or canal

dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into watercourses running into them

dumping, burning or storing any materials within 50m of the lake pond or canal including the land spreading of used pesticides (e.g. sheep dip)

alteration of the banks, channel, bed or flow of the lake, pond or canal or of watercourses running into or out of it

harvesting or burning of reed or willow

causing siltation

operation of commercial recreation facilities

(e.g. bird watching tours)

introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area

any other activity of which notice may be given by the Minister from time to time

Section B

(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)

developing leisure facilities including golf courses, sports pitches, caravan or camping facilities

any activity which might cause pollution of the lake, pond or canal

removal of soil, mud, gravel, sand or minerals

developing roads or car parks

construction of fences, buildings or embankments

construction or operation of an aquaculture Facility

fishing for eels or salmon

bank maintenance and grading

creation of weirs and dams

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage and Local Government to restrict <u>existing</u> 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, Heritage and Local Government, an appropriate appeals procedure will be put in place.

APPENDIX VI: 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 VII: FARMING CONDITIONS UNDER REPS

Conditions for the conservation of blanket bogs, heaths and upland grasslands to be applied under REPS

General Provisions

The conditions for specific habitat types are supplementary to the agri-environmental plan requirements of the general REPS programmes. The conditions for the target areas under Supplementary Measure A apply. Planners may seek a derogation from the Regional Inspector to vary these conditions in individual cases. All REPS plans in respect of NHAs must be approved and signed by the Planning Agency's environmentalist/ecologist.

Detailed Conditions

The conditions applicable to Supplementary Measure A apply; the guidelines set out below are complementary to these conditions.

Stocking Density

In all cases an environmentally sustainable plan must be prepared and adhered to for the total area of the farm. Sustainable optimum stocking rates must be set down by the REPS planner following careful assessment of the environmental conservation needs of the lands.

Where the stocking levels set down by the planner require a reduction in stock, this must be achieved within one year of the commencement of the plan.

There can be no increase in stocking levels, no introduction of stock to new areas and no changes in stock type during the period of the REPS plan without the prior approval of DAF.

The maximum number of sheep that may be kept on the farm as a whole must be set down in the REPS plan. The conditions set out for Supplementary Measure A areas must be followed. The following parameters apply:

- Where there is no damage, the current stocking levels are acceptable.
- If the level of damage is moderate, a stocking reduction must be prescribed by the planner at a level related to the damage and sufficient for the vegetation to recover
- If the level of damage is severe, a stocking reduction of between 70 % and 100 % of ewe numbers on the damaged area must be prescribed for a specified period.
- At the review of the REPS plan, the conservation status of the areas will be reviewed. A change in the stocking levels (increase or decrease) may be appropriate depending on progress.

Stocking levels apply to Scottish Blackface sheep or similar medium sized sheep breeds. Stocking levels for cattle or other stock should be at livestock unit applicable rates taking account of DAF conversion rates for the various stock types. The stocking levels recommended in this document are maximum sustainable rates for year round grazing. If shorter periods of grazing are used, the number of animals may be increased, though not necessarily pro rata.

Supplementary Feeding

Supplementary feeding is permitted only on areas where it is currently practised. Locations of feeding points must be specified. To reduce heavy grazing, trampling, poaching and erosion problems, 'feeding points' should be moved every three weeks and sited on ground with least habitat and wildlife value, preferably on grassland well away from stands of heather. Feeding on steep slopes and on peaty soils should be avoided where possible. The total amount of feed used must not be increased.

Use of Fertilisers and Herbicides

Neither organic nor inorganic fertilisers or lime can be applied on bogs, heaths or upland grasslands where they have not been used before. Fertilisers must not be used as a means of regenerating eroded areas. In the case of upland grasslands, fertilisers can only be applied on the basis of the results of a soil test. Where fertilisers are being applied, the initial soil sampling should be relatively intensive, with at least one sample per 2-4 ha. Target soil phosphate levels must not exceed the Index 2 level set out in the REPS specification.

Spraying or broadcast application of herbicides must be avoided. Spot application and wipe-on treatments to eradicate docks, thistles, ragwort and similar noxious weeds may be used. Rhododendron may be removed by cutting and herbicide treatment. Bracken control may be by rolling, cutting and/or by controlled cattle trampling in early summer. In exceptional circumstances, control of bracken by herbicides may be permitted.

Water Pollution

The greatest care should be taken to observe the statutory requirements on water pollution. The hydrology of bogland areas is characterised by extremely nutrient poor surface waters which contain flora and fauna adapted to these conditions. These species would be adversely affected by nutrient enrichment. New sheep dip sites must be listed and located away from streams and flushes to reduce the possibility of water pollution and damage to flora and fauna.

Restricted and Prohibited Practices

- The following practices must not be carried out on blanket bogs, heaths or upland grasslands
- The areas must not be drained, ploughed, cultivated or reseeded.
- There must be no infilling or rock removal.
- Turf cutting on unexploited bogs is not permitted. Turf cutting for domestic use is permitted on existing banks.
- Planting of trees or other crops is not permitted.
- No new tracks or paths can be created.
- Burning is only allowed as a planned management practice.
- Gorse may be controlled by cutting, spot spraying or exceptionally by burning outside of the bird nesting season (March 1st to August 31st).

Complementary Action

(a) Measures to prevent damage by non REPS participants

DAF should take measures to ensure that the environmental benefits achieved in degraded areas under REPS are not negated or diminished by non-participants in the Scheme

(b) Evaluating and Monitoring

Monitoring and evaluating the effects of REPS on blanket bogs, heaths and upland and unimproved grassland is essential in determining the environmental impact of REPS on these habitats so that appropriate modifications can be identified and effected where necessary. The effect of the grazing regime on vegetation and wildlife should be monitored to assess recovery as well as any damage being caused by animals. To this end, DAF and NPWS of DEHLG, in consultation with Teagasc and private planners, will monitor the environmental impact of REPS on these habitats on an ongoing basis. Progress in this regard will be reported to the Consultative Committee on REPS.

(c) Farmer Education /Advice

A REPS promotional campaign will be undertaken as soon as is practicable to inform farmers of the conservation needs of these areas and of the provisions of REPS. This campaign will be undertaken by DAF. Farming and environmental organisations will also be invited to assist in this promotional campaign.

(d) Seminars for Planners

Seminars for REPS planners shall be held to advise on the interpretation of these conditions at ground level.

(e) Demonstration Farms

A number of REPS participant demonstration farms will be set up in selected areas. Research work could also be carried out at these farms to assess the ability/rate of recovery of an area under different stocking conditions.

(f) Quota Rights

Any REPS participant farmer is guaranteed that their quota rights are protected and in the event of a possibility of increasing numbers arising, such farmers would be allowed to do so, subject to the environmental condition of the participant farm.

(g) Scheme Extension

The application of REPS in the target areas will apply for periods of five years renewable for 15 years.

(h) Local Co-ordination

DAF will encourage co-ordination, at local level, of efforts to rejuvenate damaged areas.

APPENDIX VIII: NATIONAL PARKS AND WILDLIFE SERVICE MANAGEMENT STAFF

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