

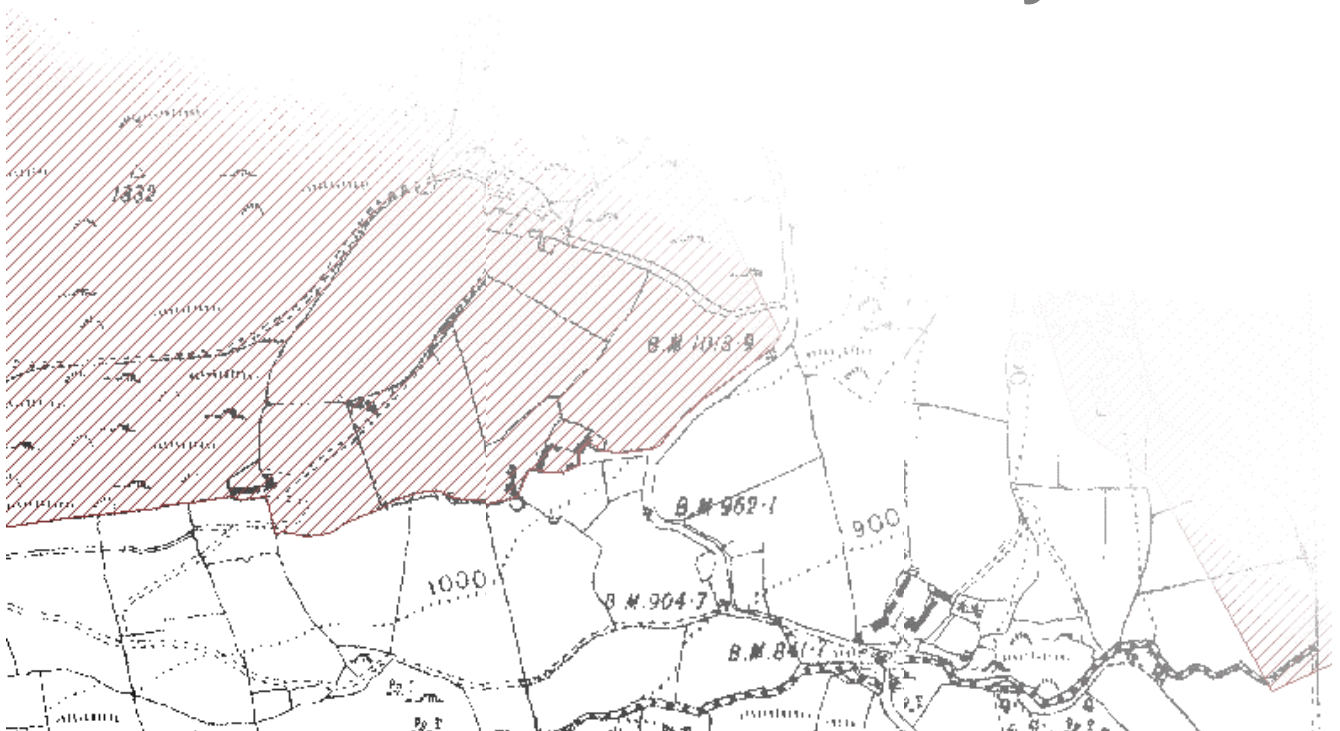


National Parks and Wildlife Service Conservation Plan for 2006-2011



Owenduff/Nephin Complex cSAC & SPA

Site Codes 534 & 4098 Co Mayo



SUMMARY

Introduction

Owenduff/Nephin Complex cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive. The site has been designated due to the presence of one of the largest and best national examples of active blanket bog (a priority habitat as listed in Annex I of the Habitats Directive), as well as eight other Annex I habitats. These comprise two heath habitats, Juniper scrub, three different lake habitats, a river habitat and mire/quaking bog habitat.

In addition, the cSAC is designated for four species listed in Annex II of the Habitats Directive species, namely Shining Suckle Moss, Marsh Saxifrage, Otter and Salmon.

The site is also designated as a Special Protection Area (SPA) for Greenland White-fronted Goose, Golden Plover, Merlin and Peregrine Falcon, all which are listed in Annex I of the EU Birds Directive.

Description of Owenduff/Nephin Complex cSAC & SPA

Owenduff/Nephin Complex cSAC & SPA is a large site comprising 26,033 ha, located in north-western Mayo. It is situated to the north of Clew Bay and is dominated by the Nephin Beg mountain range in the east and south, and a large area of blanket bog in the west and north. Many of the mountains in the site exceed 500m in height, with the highest peak attaining 721m. The underlying rock is predominantly schist and gneiss in the low-lying western half of the site, while the more resistant quartzite is the main rock type in the mountainous eastern and southern parts.

Almost one third of the site is state-owned and comprises Ballycroy National Park, Co. Mayo. More than half the site is commonage.

There are two main types of blanket bog present within the site, namely lowland and upland blanket bog. The low-lying areas are covered by continuous tracts of gently undulating bog vegetation dominated by Purple Moor Grass, Black Bog-rush, Deer-grass and Cross-leaved Heath. In places the surface is differentiated into a microtopography of hummocks and wet hollows. Mineral-rich flushes occur and in such areas the flora is characterised by plant species not generally encountered on blanket bog, such as Mud Sedge and Whip Sedge, as well as several rare moss species.

The lowland blanket bog system is dotted with small dystrophic lakes, which are extremely base poor, have peaty bottoms and usually have brown stained water. The diversity of plant species in these lakes is typically very low. Larger and more typical oligotrophic lakes also occur. These lakes are still base poor systems and have rocky/peaty bottoms and shallow margins. A well-developed flora often occurs around the margins, including Water Lobelia, Common Spike-rush, Bulbous Rush, Pipewort and Shoreweed. Some of the larger bog pools/lakes contain small islands that, in addition to the normal bog species, may contain more unusual species such as Crowberry and

Royal Fern. Occasionally these islands and drier areas of blanket bog support a low-growing scrub vegetation type dominated by Juniper.



Owenduff/Nephrin Complex cSAC and SPA. Photo C. Clotworthy (2001).

In the upland areas of the site, a number of different habitats are present. A mixture of lowland blanket bog and wet heath vegetation generally dominates the lower slopes of the mountains. Higher up the mountains these vegetation types grade into upland blanket bog, wet heath, dry heath, upland grassland and the summits are dominated by Alpine heath vegetation on shallow peat interspersed with rock outcrops. The dominant species in these habitats are generally Ling, Bell Heather, Crowberry and Bilberry. Least Willow and Stiff Sedge are two rare plant species recorded from the summits of the mountains that occur in association with heath communities.

Precipitous cliffs are frequent in many mountainous areas of the site and some of these support rare plant species, such as Purple Saxifrage and Alpine Meadow-rue. The upland areas within the site also support many fine examples of small upland oligotrophic lakes. The flora of these lakes is typically sparse with few plant species present. Quillwort and Shoreweed are characteristic species of these lakes.

The Owenduff River and its numerous tributaries drain the site. This extensive river system is one of the best remaining examples of a large and relatively intact, un-afforested river catchment in Ireland. The river runs through areas that are underlain by base poor bedrock, which is reflected in the water quality of the river. As a result, the vegetation of the flowing water is sparse and includes more acid tolerant plants. Typical species include Floating Pondweed, the moss *Fontinalis antipyretica*, and Bulbous Rush at the margins. In some areas a wide, grassy floodplain has developed alongside the river. Common species here include Bent Grasses, Selfheal, Common Sedge and Bog Pimpernel. Ivy-leaved Bellflower, a very rare species in the north of the country, grows in this habitat in a number of locations.

The site contains two plant species listed in Annex II of the Habitats Directive, namely Marsh Saxifrage and Shining Sickle Moss. Both of these species are confined to small flushes within areas of lowland blanket bog. Both species are legally protected under the Flora Protection Order (1999). The Marsh Saxifrage is a very rare plant in Ireland. Two other legally protected plant species have been recorded from the site in the past, Marsh Club-moss and Bog Orchid. Several other notable plant species are found within the site.

The extensive areas of bog, lake and river habitats within the site support Otters, as well as Atlantic Salmon. Both of these species are listed in Annex II of the Habitats Directive. Other nationally and internationally important species occurring within the site include the Irish Hare, Brown Trout and Common Frog.

Six species listed in Annex I of the Birds Directive have been recorded from the site, including Greenland White-fronted Goose, Golden Plover, Merlin, Peregrine Falcon, Hen Harrier and Whooper Swan. The boglands provide a traditional wintering ground for the Geese. The site

supports breeding populations of Golden Plover, Merlin and Peregrine. The site also provides good habitat for other notable bird species such as Red Grouse.



Greenland White-fronted Goose (Anser albifrons flavirostris)

The Owenduff/Nepin Complex is of high ecological interest due to the fact that it contains one of the largest remaining examples of intact blanket bog, coupled with a dramatic mountain landscape. The site also contains the Owenduff River, which is a particularly good example of a large, relatively unspoilt, river system in a base poor catchment. The presence of nine Annex I habitats, four Annex II species and four Annex I Bird Directive species contribute to form a site of considerable ecological value. The site is a striking wilderness of bog and mountain that forms a unique landscape.

The predominant landuse within the site is grazing, mainly by sheep, although cattle are present in some of the lower lying areas within the site. Some blanket bog and heath areas within the site have been severely damaged by overgrazing. In the recent past large tracts of the peatland system adjacent to the site have been planted with conifers, which has resulted in the loss of intact blanket bog.

Main conservation objectives

- To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; active blanket bog (approximately 64% of the site), Northern Atlantic wet heaths, Alpine and boreal heath, oligotrophic waters with few minerals, oligotrophic to mesotrophic standing waters, natural dystrophic lakes and ponds, water courses of the plain to montane levels, transition mires and quaking bogs and *Juniperus communis* formations.
- To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; Shining Sickle Moss, Marsh Saxifrage, Otter and Salmon.
- To maintain the species for which the SPA has been selected at favourable conservation status; Greenland White-fronted Goose, Golden Plover, Merlin and Peregrine Falcon.
- To maintain the extent, species-richness and biodiversity of the site.
- To continue to develop Ballycroy National Park, Co. Mayo.
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Main management issues

- Afforestation
- Decline in Greenland White-fronted Geese numbers
- Dumping
- Fencing
- Livestock trespass into Ballycroy National Park
- Loss of Red Grouse habitat
- Motor vehicle use
- Overgrazing
- Peat cutting
- Poor state of trails
- Poor water quality
- Quarrying
- Rhododendron infestation

Main strategies to achieve objectives

- Manage grazing on commonages
- Manage grazing within the National Park
- Manage grazing on privately owned lands
- Control spread of Rhododendron
- Control further fencing
- Minimise impacts of peat cutting
- Prepare National Park management plan
- Develop National Park visitor facilities

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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 Birds and Habitats Directives in relation to this site.

INTRODUCTION

Legal Background of Conservation Plans

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

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

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

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

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

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

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

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

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

Sites are legally protected once they are publicly advertised.

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

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

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

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

Reasons for Designation of Owenduff/Nephin Complex cSAC

HABITATS LISTED IN ANNEX I OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
<ul style="list-style-type: none"> Blanket bog (*active only) (EU Habitat Code 7130) 	The area of blanket bog within the cSAC constitutes one of the largest and best examples of a blanket bog landscape in the country, despite damage caused by overgrazing
<ul style="list-style-type: none"> Northern Atlantic wet heaths with <i>Erica tetralix</i> (EU Habitat Code 4010) 	Extensive areas of wet heaths occur on shallow peat. This habitat often occurs in mosaic with blanket bog.
<ul style="list-style-type: none"> Alpine and boreal heaths (EU Habitat Code 4060) 	This habitat occurs on the summit ridges of the mountains within the site, where several noteworthy Arctic-Alpine plant species occur
<ul style="list-style-type: none"> Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) (EU Habitat Code 3110) 	These nutrient-poor lakes support typical plant species around their margins and appear to be in good ecological condition
<ul style="list-style-type: none"> Oligotrophic to mesotrophic standing waters with the vegetation of the <i>Littorelletalia uniflorae</i> and/or <i>Isoete-Nanojuncetea</i> (EU Habitat Code 3130) 	The site contains some fine examples of small, nutrient-poor, upland lakes, including corrie lakes backed by precipitous cliffs
<ul style="list-style-type: none"> Natural dystrophic lakes and ponds (EU Habitat Code 3160) 	The extensive area of lowland blanket bog contains numerous examples of small to medium sized base-poor, peaty bottomed lakes

<ul style="list-style-type: none"> • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation (EU Habitat Code 3260) 	The Owenduff River and its tributaries constitute one of the best remaining examples of a large, base-poor, river system in Ireland.
<ul style="list-style-type: none"> • Transition mires and quaking bogs (EU Habitat Code 7140) 	Given the large expanses of blanket bog within the site, this habitat is also well represented. Of particular note is the presence of Bog Orchid, a diagnostic species for the habitat
<ul style="list-style-type: none"> • <i>Juniperus communis</i> formations on calcareous heaths or grasslands (EU Habitat Code 5130) 	This habitat is relatively rare in the site. It appears to be largely confined to ungrazed islands on the larger lakes

* indicates priority habitat

SPECIES LISTED IN ANNEX II OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
<ul style="list-style-type: none"> • Shining Sickle Moss (<i>Drepanocladus vernicosus</i>) 	The site contains one known location for this species
<ul style="list-style-type: none"> • Marsh Saxifrage (<i>Saxifraga hirculus</i>) 	Three separate populations of this species have been recorded within the site
<ul style="list-style-type: none"> • Otter (<i>Lutra lutra</i>) 	Otter is known to be widespread throughout the aquatic habitats
<ul style="list-style-type: none"> • Salmon (<i>Salmo salar</i>) 	The Owenduff River has an exceptional spring salmon fishery that is regarded as the most important fishery in the north western region. Spawning habitats and water quality are good



Otter (*Lutra lutra*)

Reasons for Designation of Owenduff/Nephin Complex SPA

SPECIES LISTED IN ANNEX I OF THE EU BIRDS DIRECTIVE	CONSERVATION VALUE
<ul style="list-style-type: none"> Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) 	A small flock of this species regularly utilises bogland and other wetland habitats for feeding and roosting during the winter
<ul style="list-style-type: none"> Golden Plover (<i>Pluvialis apricaria</i>) 	The extensive tracts of blanket bog provide good breeding habitat and this site is a stronghold for the species
<ul style="list-style-type: none"> Merlin (<i>Falco columbarius</i>) 	Ireland's smallest falcon utilises bog areas particularly marginal zones between bog and upland grassland/heath. The breeding population has been estimated to be at least 4 to 8 pairs
<ul style="list-style-type: none"> Peregrine (<i>Falco peregrinus</i>) 	The high cliffs and crags provide good nesting sites and the boglands provide hunting areas



Golden Plover (Pluvialis apricaria)

Implications of Site Designation for Landowners and other Site Users

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 VI).

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 VII.

SITE DESCRIPTION

Location Including Site Boundaries

The site is located in north-west Mayo, to the north of Clew Bay (Map 1).

(Please note that for the purposes of this conservation plan, the term “site” refers to the total area covered by the SPA and cSAC. These two designations are largely overlapping- see map 2)

Grid Ref.:	F 98 08
Latitude:	N 54°00'33"
Longitude:	W 09°41'03"
Area:	26,033 ha (total designated area) 24,927 ha (cSAC) 25,707 ha (SPA)
Altitude Range:	10 m to 721 m
Townlands:	Altnabrocky, Aughness, Bellagarvaun, Bellaveeny, Briska, Bunmore East, Bunmore West, Bunnahowna, Carheenbrack, Castlehill, Clagganmountain, Croaghaun, Dooghill, Drumgollagh, Essaun, Glendahurk, Glennamaddoo, Glennamong, Glenthomas, Gortbrack South, Greenaun, Lagduff Beg, Lagduff More, Largan More, Lettera, Letterkeen, Lettermaghera North, Lettermaghera South, Lough Feeagh, Lurgandarragh, Mallaranny, Maumaratta, Meennaclooughfinny, Muingaghel, Muingnahalloona, Murrevagh, Oghillees, Owenduff, Owenglass, Rosgalliv, Scardaun, Sheean, Sheeanmore, Srahacorick, Srahduggaun, Srahederdaowen, Srahgraddy, Srahmore, Srahnamanragh, Tallagh (Ed Ballycroy South), Tarsaghaun More, Tarsaghaun Beg North, Tarsaghaun Beg South, Tawnanasheffin, Treel and Uggool.

Site Boundaries

The site is bounded to the north by part of the Owenmore River and the regional N59 road, which also generally bounds the site to the west and south. Forestry plantations and agriculturally improved land form the boundaries of much of the rest of the site.

Site Infrastructure

The site is remarkable for the lack of roads and tracks within its boundaries. The Bangor Trail, a way-marked walking route runs roughly in a north south direction, from the Srahmore River at the south-east margin to Bangor, which lies just north of the site. This track cuts through the centre of the site, winding between the higher mountains to join the Western Way in the south-east. Other un-surfaced tracks, used to access forestry plantations and areas of peat cutting occur on the margins of the site.

Legal Status

Ownership

See Map 3

Most of the site is commonage (12, 800 ha or 49 %)

The remainder of the site is in multiple private ownership (5045 ha/ 19.4 %) or state ownership (8189 ha/ 31.5 %).

In 1993, in recognition of the ecological, landscape and cultural value of this area, NPWS began purchasing land with the aim of forming a new National Park, now Ballycroy National Park, Co. Mayo. Some of the lands within the National Park area were purchased with funding from a European Union LIFE Project.

The State also owns shares in some of the commonages within the site.

Designations of the Site

candidate Special Area of Conservation	Sitecode IE0000534	Published on 1 st March 1997.
Special Protection Area	Sitecode IE0004098	Published on 8 th October 1996 in S.I. No. 298 of 1996.
proposed Natural Heritage Area	Sitecode 534	Published in 1995.
National Park	The State owned lands within the cSAC/SPA (and some adjoining areas) were declared a National Park in 1998 (Map 2).	
Corine Biotope	Site Code: 800000415 (Site known as the Upper Owenduff Catchment: Owenduff Catchment and Nephin Beg Mountain Range).	

Past Status of the Site

The Owenduff/Nephin Complex incorporates a number of bog sites which were formerly listed as NHAs or Areas of Scientific Interest (ASIs), namely: Owenglass West, Sheean More, Lagduff, Lettera, West Maumkelly/Tarsaghaun Beg North, Bellagargaun Flush, Owenglass East, Owenduff at Lagduff Lodge, Owenduff Blanket Bog and Uggoon.

Government Departments and Agencies

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

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

National Parks & Wildlife Service (NPWS)

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 Conservation Rangers.

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 IX) for further details of NPWS regional staff.

Mayo County Council

Mayo 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.

The EPA conduct water quality monitoring at several locations on the Owenduff, which are within the site (north of Srahduggan, Srahnamanragh Bridge and Tarsaghaunmore River, which is a tributary of the Owenduff River). The EPA also conducts monitoring of the Owenmore River, which forms part of the northern boundary of the site. These locations will become part of the newly introduced National Rivers Monitoring Programme, which is being implemented to fulfil the requirements of the EU Water Framework Directive.

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 and The Marine Institute.

The Marine Institute

The statutory duties of the Marine Institute include weekly biotoxin monitoring of shellfish for human consumption, chemical monitoring of fish and shellfish in twenty three major shellfish growing areas, sea lice monitoring on marine fish farms and benthic monitoring.

Research laboratories, owned and operated by The Marine Institute, are located to the south-east corner of the site. This has been the focus for salmonid research since 1955.

The Central Fisheries Board

The Central Fisheries Board is the statutory body is responsible for the co-ordination and support of the seven regional fisheries boards. Its responsibilities also include the control of commercial salmon licensing.

North Western Regional Fisheries Board

The North Western Regional Fisheries Board is responsible for maintaining and improving environmental quality and developing and protecting the fisheries resource in their region. The Boards responsibilities cover both inland waterways and out to the twelve-mile limit off the coast.

Coillte Teoranta

Coillte Teoranta is the State-owned commercial forestry company, which owns public forests.

Local Authority Policy in relation to the Site

The Co. Mayo draft development plan (2002) states that “*It is an objective of the Council to protect and conserve areas designated as candidate Special Areas of Conservation, Special Protection Areas and proposed Natural Heritage Areas*”. It is a further objective of the Council “*to protect and conserve the natural habitats and plant and animal species identified under the Habitats Directive, Birds Directive, Wildlife Act and Flora Protection Order or any other relevant legislation that may be implemented during the lifetime of the plan*”.

Physical Features

Climate

North-west Co. Mayo experiences a mild, wet oceanic climate and the area is extremely exposed to strong winds and gales from the Atlantic.

The closest synoptic weather station to the site is the Belmullet station, and 30-Year Average information for this station was obtained from Met Eireann. The full details are presented in Appendix III. In summary, the mean daily air temperature at the station is 9.6°C, ranging from an average low of 2.9°C in February to an average high of 17.2°C in July. The average annual rainfall is 1142.7mm, and the average daily duration of sunshine is 3.5 hours. The wind is predominantly westerly to south-westerly, with an average wind speed of 13.1 knots. There is an annual average of 18.1 days with snow or sleet recorded for the Belmullet station, with only 2.3 days where snow was still lying on the ground by 9am.

Geology & Geomorphology

The general area is underlain by schist and gneiss to the west, with quartzite present in the east and south. A large proportion of the site lies above 200m and these upland areas contain spectacular mountain cliffs and corrie lakes. Many of the mountain peaks reach altitudes of 500m with the tallest peak (Slieve Carr) reaching a height of 721m.

The Dalradian Supergroup rocks underlie the Owenduff/Nephrin Complex. This group is divided into four major sub-divisions, three of which are present in this site, namely the Grampian, Appin and Argyll groups.

The Argyll group is formed from mostly interbedded mica schists and psammities (often metagreywackes); psammitic, semi-pelitic and pelitic wackes, meta volcanics, occasional marbles and a tillite, overlain by a thick white quartzite, at the base. This group is the dominant group in the north of the site.

The Appin group is predominantly psammitic schists and quartzites; pelitic and semi-pelitic schists, carbonaceous pelitic schists and some marbles. This group is confined to bands that surround the Grampian group and is often found at the interface between the two major rock sub-types, which form the majority of the site. The Grampian group predominates in the south of the site. It comprises pale-coloured quartzites and psammitic schist, with subordinate pelitic schists.

The Nephrin Beg Range is formed by white to pale brown, yellow and green quartzites and psammitic schists. These are metamorphosed sandstones that have resisted erosion in many places. Tillite (a glacial boulder clay) is found at the base of the Argyll group running southwards along the Nephrin Beg Range.

Soils & Soil Processes

Most of the landscape is now covered by vast expanses of upland and lowland blanket bog. Soils are primarily peats, consisting of peaty podzols. The heath and grasslands occur on the upper slopes of the mountains, on skeletal peats and on soils which have some mineral sub-soil influence. On the steeper peaks the soils are very thin and outcropping rock is common. Mineral soils elsewhere in the site are comparatively rare, and are limited to the floodplains of the Owenduff or to enclosed farm holdings, the latter of which have largely been excluded from the site. Underlying glacial tills are usually only visible along stream channels, river gullies and road cuttings.

The cool wet climate of the west of Ireland has favoured podzol formation by leaching of exchangeable base ions, reducing chemical weathering and inhibited humus decomposition. This has resulted in the relatively poor nutrient status of the sub soils. Blanket peat has a naturally poor nutrient status.

Hydrology & Water Quality

The site is drained by the Owenduff River, Owenmore River and numerous tributaries. The Owenduff River is an extensive river system that represents one of the best remaining examples of a large and relatively intact, unafforested river catchment in Ireland. In the higher reaches of the river the gradient is steep and the water flow is fast. The bed of the river in these areas comprises large boulders. The river runs through blanket bog for much of its course. In times of heavy rainfall, once the ground water in the bog is fully charged, the river is prone to flash flooding. In the lower lying areas the rivers meanders and the flow is much slower. The bed of the river here typically comprises smaller, more rounded pebbles/ gravel. In the main, tributaries and streams, generally flow in a south-east to north-west direction. Rivers and streams to the east of the mountains drain into the Owenmore, while rivers and streams in the west of the range drain into the Owenduff.

The EPA take water samples at nine locations (including the sampling sites on the Owenduff River) within the site, which are monitored under the National Ecological Monitoring Programme. The sampling locations are listed in the following table in a north to south direction across the site. The Q values recorded for each sampling location are presented in the table overleaf.

The most recent water quality monitoring results (from 2002) of the Owenduff River from the EPA indicate that all the sites monitored had Q Values of either 4 or 4-5, indicating that the water is unpolluted and is of good to good-fair water quality (see table below). However, the EPA report notes that while the catchment of the Owenduff River does not seem to be subject to any major pressures, there is an impoverished faunal community that is low in species diversity. The EPA report further notes that *“even allowing for the acidic nature of the catchment, which would be expected to cause a reduction in faunal diversity and abundance, the Owenduff compares poorly in this respect against a number of other western rivers which are apparently of a similar type”*. Water quality monitoring results from the same period for the Owenmore River presents the same Q Values, indicating that the water is unpolluted.

Water Quality (Q) Values for EPA Sampling Stations within Owenduff Nephin Complex cSAC

Sampling Station Location	Q Value ¹					
	1982	1986	1990	1994	1997	1999
Owenduff (Blacksod) Ford upstream of Tarsaghanmore River	-	5	4-5	4	4	4
Tarsaghaunmore (just upstream of Owenduff River)	-	5	4-5	4	4	4
Owenduff (Blacksod) Near Sheean Lodge	-	5	4-5	4-5	4	4-5
Owenduff (Blacksod) N of Srahduggan	-	5	4	4	4	4
Owenduff (Blacksod) Ford NW of Srahduggan	-	-	-	3-4	4	4
Bellagarvaun (0.3km upstream Br SW of Bellaveeny Lodge)	-	-	3-4	3-4	3-4	3
Srahmore (Bridge upstream of Lough Feeagh)	-	-	4	4	4	-
Glennamong (Bridge upstream Lough Feeagh)	-	-	4-5	3-4	4	3-4
Owengarve (Mayo) Glendahurk Bridge)	5	-	4-5	3	4	4

(Source: Interactive River Map on www.epa.ie).

- 1 Q Value Descriptions - Q5 implies good water quality, Q4 implies fair water quality and Q3 implies doubtful water quality. The intermediate values (eg 4-5) indicate transitional states. With regard to 'condition', Q4 and Q5 imply a satisfactory condition where Q3 is considered to be unsatisfactory. 'Condition' refers to the likelihood of interference with beneficial or potentially beneficial uses of water).

Detailed water quality information from Srahnamanragh Bridge on the Owenduff River was collected between 1995-1997 and 1998-2000 (Appendix IV). This data indicates that the Owenduff River, at this location, is in a pristine to unpolluted state (*ie* of either Q4 or Q5 status) depending on the parameter referred to (*ie* maximum biochemical oxygen demand, dissolved oxygen or annual median orthophosphate).

Biological Features

Habitats and Vegetation

Note: Throughout the conservation plan, habitats are named and described under two different systems: the Annex I habitat(s) are as listed in the EU Habitats Interpretation Manual Version 15/2(1999), while all other habitats are as listed according to the classification system of ‘A Guide to Habitats in Ireland’ (Fossitt, 2000).

The following table lists the habitats within the site. The Annex I habitats of the Habitats Directive for which the site was selected is listed, with the relevant Guide to Habitats category also shown. Annex I priority habitats are marked with an asterisk (*). The Indicative Habitat map for the site is presented in Map 4. The percentage area presented for each habitat type is based on the approximate geographic area of each habitat, as shown in Map 4.

Habitats Found within Owenduff/Nephin Complex cSAC & SPA

ANNEX I HABITAT TYPE	HABITAT CATEGORY	% AREA
Blanket bog (*active only) (EU Code 7130)	Upland & Lowland Blanket Bog (PB2 & PB3)	65%
Northern Atlantic wet heaths with <i>Erica tetralix</i> (EU Code 4010)	Wet Heath (HH3)	27% (includes alpine and boreal heath)
Alpine and boreal heaths (EU Code 4060)	Montane Heath (HH4)	(mapped with wet heath)
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) (EU Code 3110)	Acid Oligotrophic Lakes (FL2)	<1% (mapped as lakes & ponds)
Oligotrophic to mesotrophic standing waters with the vegetation of the <i>Littorelletalia uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> (EU Code 3130)	Acid Oligotrophic Lakes (FL2)	<1% (mapped as lakes & ponds)
Natural dystrophic lakes and ponds (EU Code 3160)	Dystrophic Lakes (FL1)	<1% (mapped as lakes & ponds)
Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation (EU Code 3260)	Eroding Upland & Depositing Lowland Rivers (FW1 & FW2)	<1% (includes all rivers)
Transition mires and quaking bogs (EU Code 7140)	Transition Mire & Quaking Bog (PF3)	(part of 65% blanket bog)
<i>Juniperus communis</i> formations on calcareous heaths or grasslands (EU Code 5130)	Dry Calcareous Heath (HH2)	<1% (not mapped)
-	Cutover Bog (PB4)	2%
-	Poor Fen & Flush (PF2)	(part of 65% blanket bog)
-	Dry-Humid Acid Grassland (GS3)	3%
-	Wet Grassland (GS4)	<1%
-	Exposed Siliceous & Calcareous Rock (ER1 & ER2)	<1%
-	Conifer Plantation (WD4)	<1%
-	Recently Felled Woodland (WS5)	<1%
-	Scrub (WS1)	<1%

Annex I Habitats:

Blanket bog (*active only) (EU code 7130)
(64% of total site area or 16,487ha)

The blanket bog habitat within this site is extensive, covering the lower slopes of the mountains, with expansive plateaux on the flatter ground. The habitat encompasses several areas of blanket bog (see Past Status section). Broad representations of good quality, bog habitats occur. There are continuous tracts of vegetation dominated by Purple Moor Grass (*Molinia caerulea*), Cross-leaved Heath (*Erica tetralix*), Black Bog-rush (*Schoenus nigricans*), Deer-grass (*Trichophorum caespitosum*) and various *Sphagnum* species. In the lower lying plateaux in the centre of the site, the flat surface is differentiated into an undulating microtopography of hummocks and wet hollows, formed by a variety of *Sphagnum* moss species, including *Sphagnum imbricatum* and *S. fuscum*. Extensive pool systems also occur, most of which are colonised by semi-aquatic plant species including Bog Bean (*Menyanthes trifoliata*), Common Spike-rush (*Eleocharis palustris*), Water Lobelia (*Lobelia dortmana*), Pipewort (*Eriocaulon aquaticum*) and occasionally Yellow Water-lily (*Nuphar lutea*). There are wet quaking *Sphagnum* dominated flats that occur in association with inter-connecting pools. Large hummocks also occur between these pool systems which comprise Ling (*Calluna vulgaris*), Hare's-tail Cotton-grass (*Eriophorum vaginatum*) and occasionally Crowberry (*Empetrum nigrum*).

The flatter expanses of lowland blanket bog comprise Ling, Cross-leaved Heath, Tormentil (*Potentilla erecta*), Bog Asphodel (*Narthecium ossifragum*), Milkwort (*Polygala serpyllifolia*), Lousewort (*Pedicularis sylvatica*), Deer-grass, Hare's-tail Cotton-grass, Common Cotton-grass (*Eriophorum angustifolium*), the moss *Campylopus atrovirens*, Purple Moor Grass and Round-leaved Sundew (*Drosera rotundifolia*).

Although a high *Sphagnum* cover is not a typical feature of blanket bog in the west of Ireland, there are some areas within this site that support many good examples of *Sphagnum* hummocks (especially *S. capillifolium*, *S. fuscum* and occasionally *S. imbricatum*), and quaking flats.

The most expansive examples of relatively intact blanket bog landscapes are to be found in the centre of the site (Sheehanmore and Owenglass West townlands) and in the north-east (Uggool, Deel and Altnabrocky townlands) of the site.

Large areas of the mountains within this site are clothed in upland blanket bog that forms a mosaic with wet heath, upland grassland and alpine heath. The dominant species of this habitat are Ling, Bell Heather (*Erica cinerea*), Deer-grass, Purple Moor Grass, Common Cotton-grass and Heath Rush (*Juncus squarrosus*).

Parts of the bog are influenced by very wet, base rich conditions. In such areas the flora is characterised by plant species not generally encountered on blanket bog, including Mud Sedge (*Carex limosa*), Whip Sedge (*C. lasiocarpa*), Marsh Cinquefoil (*Potentilla palustris*), Ragged Robin (*Lychnis flos-cuculi*) and Cranberry (*Vaccinium oxycoccus*). These minerotrophic flushes also contain a rich bryophyte flora which includes rare species such as *Homalothecium nitens*, *Sphagnum recurvum* var. *tenue*, *S. auriculatum*, *S. cuspidatum* and the Annex II Habitats Directive listed Shining Sickie Moss (*Drepanocladus vernicosus*).

A large population of Mediterranean Heath (*Erica erigena*) is recorded within this habitat, at Dooghill north of Mulranny.

Northern Atlantic wet heaths with *Erica tetralix* (EU code 4010) (27% of total site area or 6,956ha)

Within the site, this habitat is often found in mosaic with the blanket bog. The wet heath community is found where the cover of blanket bog is shallow on the lower slopes of the mountains. The typical vegetation of this habitat is dominated by ericoid dwarf-shrubs including Ling, Cross-leaved Heath and Bell Heather. Tormentil, Purple Moor Grass and Deer-grass are also common components of the wet heath vegetation.

Where grazing pressure is severe, Heath Rush and Mat Grass (*Nardus stricta*) are dominant and are accompanied by Hare's-tail Cotton-grass and Silver-haired Moss (*Racomitrium lanuginosum*).

Alpine and boreal heaths (EU code 4060) (part of 27% of Northern Atlantic wet heath)

Alpine heath vegetation is found on shallow, skeletal peat interspersed with rock outcrops. The dominant species in these habitats are generally Ling, Bell Heather, Tormentil, Crowberry and Bilberry (*Vaccinium myrtillus*). Dwarf Willow (*Salix herbacea*) and Stiff Sedge (*Carex bigelowii*) are two of the rarer plant species to have been recorded in association with heath communities from the summits of the mountains (Roden, 1986). Precipitous cliffs are frequent in many mountainous areas of the site and some of these support rare plant species such as Purple Saxifrage (*Saxifraga oppositifolia*) and Alpine Meadow-rue (*Thalictrum alpinum*).

Praeger (1934) documented the occurrence of a number of noteworthy plant species from the Nephin Beg Range including, the Club-moss (*Diphasiastrum alpinum*), Starry Saxifrage (*Saxifraga stellaris*), Roseroot (*Rhodiola rosea*) and the aforementioned Alpine Meadow-rue (*Thalictrum alpinum*).

Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) (EU code 3110) (<1% of total site area)

The remote upland areas within the site support a number of corrie lakes (circular lakes in mountainous regions of glacial origin usually surrounded by steep sided cliffs/rocks), which are typically rock bottomed and of a base poor nutrient status. There are upwards of 15 such lakes in the eastern and southern fringes of the site. Most of these lakes lie at an altitude of above 200m. Lough Adanacleeveen is the highest of these lakes lying at an altitude of over 550m.

These lakes are often set against a spectacular backdrop of precipitous cliffs as in the case of Lough Anaffrin, Lough Adanacleeveen and Corryloughnaphuil Lough. There is a variation in size of these loughs ranging from 1-2 ha, to Corryloughnaphuil Lough, which is some c.25 ha. The vegetation of these loughs is sparse with little emergent vegetation present. Quillwort (*Isoetes lacustris*) has been recorded from several of the lakes in the Nephin Beg Range.

Oligotrophic to mesotrophic standing waters with the vegetation of the *Littorelletalia uniflorae* and/or *Isoete-Nanojuncetea* (EU code 3130) (<1% of total site area)

Lowland oligotrophic lakes are base poor systems which have rocky/peaty bottoms and shallow margins. The greatest concentration of these lakes occurs in the townland of Lettera, which is in the centre of the site. These particular lakes have rocky bottoms and are referred to by Douglas et al, (1989) as "rock basin lakes".

Typical species that colonise the margins of these lakes include Water Lobelia, Common Spike-rush (*Eleocharis multicaulis*), Bulbous Rush (*Juncus bulbosus*), Pipewort (*Eriocaulon aquaticum*) and Shoreweed (*Littorella uniflora*). Some of the larger bog pools/ lakes contain small islands, which in addition to the normal bog species, may contain more unusual species such as Crowberry and Royal Fern (*Osmunda regalis*). Occasionally these islands support a low-growing scrub vegetation type dominated by Juniper (*Juniperus communis* subsp. *alpina*).

Natural dystrophic lakes and ponds (EU code 3160) (<1% of total site area)

These are peaty-bottomed lakes located in areas of low-lying blanket bog. These lakes are extremely base poor. The water is often tinged with orange by humic acids. An unusual feature of these types of lakes is the abrupt transition from blanket bog to open water with little in the way of a shallow lake margin present. The vegetation of these dystrophic lakes is sparse. If marginal vegetation is present it is normally limited to narrow floating rafts comprising Bulbous Rush, White Beak Sedge (*Rhynchospora alba*) and *Sphagnum cuspidatum*. The deeper more open waters often support Bog Bean and Pipewort, with the occasional White Water-lily (*Nymphaea alba*) and Bur-reed (*Sparganium emersum*). Islands are not uncommon in these lakes and they often support Crowberry and Juniper.

Water courses of plain to montane levels with the *Ranunculon fluitantis* and *Callitricho-Batrachion* vegetation (EU code 3260) (<1% of total site area)

The best examples of this habitat within the site are found along the lower reaches of the Owenduff River. Typical species present include Floating Pondweed (*Potamogeton natans*), the moss *Fontinalis antipyretica*, and Bulbous Rush (*Juncus bulbosus* var. *fluitans*) at the margins. In the lower reaches, a wide grassy flood plain has developed along side the river. Common species here include Bent Grasses (*Agrostis* spp.), Selfheal (*Prunella vulgaris*), Common Sedge (*Carex nigra*) and Bog Pimpernel (*Anagallis tenella*).

Ivy-leaved Bellflower (*Wahlenbergia hederacea*) a very rare species in the north of the country, grows in this habitat in a number of locations along the Owenduff River. Gorse (*Ulex europaeus*) and Rhododendron (*Rhododendron ponticum*) have developed in places along the river banks.

The Owenduff River runs through blanket bog for much of its course. In times of heavy rainfall, once the ground water in the bog is fully charged, the river is prone to flash flooding and bank erosion. The river runs through areas that are underlain by base poor bedrock, which is reflected in the water quality of the river and, as a result, the vegetation of the flowing water is sparse and includes more acid tolerant plants.

Transition mires and quaking bogs (EU code 7140) (part of 64% of blanket bog area)

Transition mires and quaking bogs are present within the site and are fairly widespread. They occur where bog vegetation merges with flush type vegetation influenced by base enrichment or in the interface between large pools/small lakes/streams and adjacent bog.

Typical species present include a variety of *Sphagnum* species (*S. cuspidatum* and *S. papillosum*), Bog Bean, White Beak Sedge, *Carex* spp. (including Mud Sedge and Bottle Sedge (*C. rostrata*)) and Shining Sickle Moss.

This habitat occurs within Owenglass West blanket bog, Uggool Bog complex, Shean More Bog and Lagduff.

***Juniperus communis* formations on calcareous heaths or grasslands (EU code 5130) (<1% of total site area)**

Vegetation dominated by Juniper occurs infrequently within the site. It is largely confined to ungrazed islands within large dystrophic and oligotrophic lakes, although it occurs on dry hummocks surrounded by extensive pool systems and quaking flats. It may also occur on free draining areas associated with rocky outcrops. In such locations, Juniper is generally wind-shorn and thus low growing, rarely achieving a height of 1m. It is found in association with plant communities typical of heath including Ling, Bilberry and Broad Buckler Fern (*Dryopteris dilatata*). This habitat often occurs in a mosaic with wet heath.

Other Habitats:

- Cutover Bog (PB4)** Most areas of old cutover blanket bog are regenerating with heathy vegetation comprising mainly heathers (*Calluna vulgaris*, *Erica* spp.), Purple Moor-grass and sedges (*Eriophorum* spp., Deer-grass), Rushes (Soft Rush (*Juncus effusus*) and Heath Rush (*J. squarrosus*) and mosses (mainly *Sphagnum* spp.). Mat Grass is locally abundant in some areas of cutover. Pine stumps are often exposed where the peat has been removed. There is still some active peat cutting within the site.
- Poor Fen and Flush (PF2)** Bellagarvan Flush lies in the blanket bog coastal plain to the west of the Nepin Beg Range. The area contains a large flush complex between the forestry plantation and the raised area of blanket bog. The large and braided flush has a soft quaking surface and displays extensive iron stained patches. Large hummocks are scattered over the surface. The flush contains a number of plant and moss species indicative of nutrient enrichment. The species recorded in this area can also be found in smaller flushes scattered throughout the site.
- The characteristic flora of these areas includes plant species not generally encountered on blanket bog, including Mud Sedge, Whip Sedge, Marsh Cinquefoil, Ragged Robin and Cranberry. These minerotrophic flushes also contain a rich bryophyte flora which includes rare species such as *Homalothecium nitens*, *Sphagnum recurvum* var. *tenuis*, *S. auriculatum*, *S. cuspidatum* and Shining Sickle Moss. The flushes in the site are relatively small and numerous.
- Dry-Humid Acid Grassland (GS3)** Localised patches of upland grassland form a mosaic with either wet heath or blanket bog vegetation. The main grasses are Mat Grass, Bent Grasses (*Agrostis* spp.), Sweet Vernal Grass (*Anthoxanthum odoratum*) and Purple Moor Grass. Also present in the vegetation are Heath Bedstraw (*Galium saxatile*), Devil's-bit Scabious (*Succisa pratensis*), Tormentil, Sheep's-bit (*Jasione montana*) and mosses. These areas are usually closely cropped by sheep.
- A few enclosed fields in the site have been re-seeded and fertilised. These fields are dominated by Perennial Rye-grass (*Lolium perenne*), Sweet Vernal Grass, White Clover (*Trifolium repens*), Meadow Grass, Mat Grass, Crested Dog's-tail (*Cynosurus cristatus*). Associated species include Tormentil, Creeping Buttercup, Mouse-ear Chickweed (*Cerastium fontanum*), Marsh Thistle (*Cirsium palustre*) and Daisy (*Bellis perennis*).
- Wet Grassland (GS4)** Some enclosed fields adjacent to the Owenduff River are dominated by Soft Rush. Other species present include Tormentil, White Clover, Creeping Buttercup (*Ranunculus repens*), Sweet Vernal Grass, Mat Grass, Meadow Grass (*Poa pratensis*), Marsh Thistle, Mouse-ear Chickweed, Daisy, Bracken (*Pteridium aquilinum*) and mosses, in particular *Rhytidiadelphus squarrosus*. Ivy-leaved Bellflower has been recorded in great abundance in some of these fields adjacent to the river. The species is associated with areas that were regularly inundated with flood water, although these areas may be over 400m from the river bank. The species found growing in close proximity to Ivy-leaved Bellflower include mosses (*Sphagnum* spp.) and Marsh Pennywort (*Hydrocotyle vulgaris*).
- Exposed Siliceous & Calcareous Rock (ER1 & ER2)** Areas of exposed rock are present particularly in the south of the site associated with the exposed ridges of Glennamong and Bengorm.

Conifer plantation (WD4)

There are two areas of commercial conifer plantation within the site. The predominant tree species is Sitka Spruce (*Picea sitchensis*). One area is located in the north-west along the site boundary, to the north of the Owenduff River as it exits the site, with a second at Bellaveeny, just to the north of Lough Anaffrin. A third smaller area is located at the western edge of the site, at Bellagarvaun.

Recently felled woodland (WS5)

An area of land at Bellaveeny, which is owned by Coillte, is currently part of a project that aims to restore blanket bog (see land use section for further details). Conifers have been felled from this previously afforested area.

Scrub (WS1)

The invasive non-native shrub *Rhododendron* occurs, particularly around the periphery of the site. It appears to have a stronghold around the many lodges in/or adjacent to the site, and is spreading from these to the drier areas of blanket bog and fringes of mineral soil, particularly along the flood plain of the Owenduff River.

Notable Flora:

Lower Plants

One population of Shining Sickie Moss has been recorded in the site. This species is listed in Annex II of the Habitats Directive and in the Flora Protection Order (1999). It is found in flush vegetation and this population occurs in close proximity to Marsh Saxifrage (see over).



Shining Sickie Moss (Drepanocladus vernicosus), Photo N. Lockhart.

Other notable lower plant species recorded from the site during the Blanket Bog Survey (Douglas *et al.* 1989) include:

- the rare moss *Homalothecium nitens* (recorded at Uggoon)
- the moss *Sphagnum recurvum* var. *tenue* (a new record in this region)
- the moss *S. imbricatum*
- the moss *S. fuscum*
- the moss *Nardia geoscyphus*
- the lichen *Peltigera membranacea* (a new record in this region in 1989)
- the lichen *Cladonia rangiferina*

Higher Plants

Marsh Saxifrage, a species listed in Annex II of the Habitats Directive has been recorded from iron flushes within the cSAC. Three populations are known to occur within the site. This species is legally protected under the Flora Protection Order (1999) as well as being listed as endangered in the Red Data Book (Curtis & McGough, 1988).



Marsh Saxifrage (*Saxifraga hirculus*), flowers 25mm across. Photo N. Lockhart.

A population of Bog Orchid (*Hammarbya paludosa*) was recorded within the site in July 1999. The population was abundant, with more than 100 flowering spikes noted. The species was observed in spring fed flush vegetation, where it occurred with Marsh Saxifrage. This species is legally protected under the Flora Protection Order (1999) and is listed as rare in the Red Data Book.

Purple Saxifrage (*Saxifraga oppositifolia*), an arctic-alpine species, was recorded from the site in 1986. It is listed in the Red Data Book, however, it is not thought to be under threat in the Republic of Ireland at present. It is rated as rare in Europe.

Another notable plant species recorded from the site is Marsh Clubmoss (*Lycopodiella inundata*), also listed in the Red Data Book.

Certain areas of wet grassland support the very rare Ivy-leaved Bellflower. This species thrives in areas that are regularly inundated with floodwater from the Owenduff River.

Other notable species occurring within the site include:

SPECIES NAME
Crowberry (<i>Empetrum nigrum</i>)
Cranberry (<i>Vaccinium oxycoccus</i>)
Dwarf Willow (<i>Salix herbacea</i>)
Stiff Sedge (<i>Carex bigelowii</i>)
Sedge (<i>Rhynchospora fusca</i>)

SPECIES NAME
Alpine Meadow-rue (<i>Thalictrum alpinum</i>)
Starry Saxifrage (<i>Saxifraga stellaris</i>)
Roseroot (<i>Rhodiola rosea</i>)
Juniper (<i>Juniperus communis</i> subsp. <i>alpina</i>)
Mediterranean Heath (<i>Erica erigena</i>)

Fauna:

Invertebrates

There have been several insect surveys carried out in Ballycroy National Park. The main groups of insects studied are Lepidoptera (butterflies and moths) and Diptera (true flies), in particular, the Syrphidae (hover-flies). The relatively low diversity of these species recorded is probably due to the rather narrow range of habitats present as well as their recent management history. A species of note recorded is *Nematus sylvestris*, which is the first record for Ireland (Speight, 2004).

Of the Lepidoptera, two species new to Mayo were recorded in 2000 these were *Elachista albidella* and *Cochylimorpha straminea* (Bond, 2000). A dragonfly survey carried out within the National Park in 2004 recorded 5 dragonfly species and 6 damselfly species (Murray, 2005).

Fish

This site has been selected as a cSAC for the Annex II species Atlantic Salmon, which utilises the Burrishoole, Owenduff, Owengarve and Owenmore River systems. This species is also listed in the Red Data Book as being Internationally Important (Whilde, 1993). While the Owenduff River is not excessively long, it provides an excellent spring salmon fishery with good spawning habitats and water quality.

Brown Trout (*Salmo trutta*) also occur in the Owenduff River.



Salmon (*Salmo salar*)

Amphibians and Reptiles

Common Frog (*Rana temporaria*), listed as an Internationally Important species in the Irish Red Data Book (Whilde, 1993) occurs in the site, as does Viviparous Lizard (*Lacerta vivipara*).

Birds

The Owenduff/Nephin Complex SPA has been designated in particular for four species listed on Annex I of the Birds Directive, namely Greenland White-fronted Goose, Golden Plover Merlin and Peregrine Falcon. In addition, several other species listed on Annex I, such as Whooper Swan and Hen Harrier also utilise the site as do other species of conservation concern. Of particular note are those species listed in the Birds of Conservation Concern in Ireland (BoCCI) report (Newton, Donaghy, Allen & Gibbons, 1999). Red Grouse is included on the red list in this report.

The table below shows species that are listed on Annex I of the Birds Directive and/or in BoCCI (see Appendix V for a full list of bird species recorded in the site and explanatory notes).

Common Name	Latin Name	Birds Directive	BoCCI List
Whooper Swan	<i>Cygnus cygnus</i>	Annex I	Amber
Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>	Annex I, Annex II	Amber
Hen Harrier	<i>Circus cyaneus</i>	Annex I	Red
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I	Amber
Merlin	<i>Falco columbarius</i>	Annex I	Amber
Red Grouse	<i>Lagopus lagopus</i>	Annex II	Red
Golden Plover	<i>Pluvialis apricaria</i>	Annex I, Annex II	Amber
Dunlin	<i>Calidris alpina</i>		Amber
Snipe	<i>Gallinago gallinago</i>		Amber
Woodcock	<i>Scolopax rusticola</i>		Amber
Curlew	<i>Numenius arquata</i>	Annex II	Red
Redshank	<i>Tringa totanus</i>		Amber
Common Gull	<i>Larus canus</i>		Amber
Stonechat	<i>Saxicola torquata</i>		Amber
Grasshopper Warbler	<i>Phylloscopus naevia</i>		Amber
Redpoll	<i>Carduelis flammea</i>		Amber

Greenland White-fronted Goose

The site is utilised for both feeding and roosting during the winter by a small flock Greenland White-fronted Geese. A number of bog and wet grassland feeding areas are known, scattered throughout the site. The birds utilise small lakes for roosting.

Population figures for over-wintering birds have been collected since 1982/83 (with the exception of 1997/98). Numbers varied from 8 to 50 birds, with an average of 31. Numbers had been more consistent in the early to mid 1980s, with a higher average of 38. The following table provides the peak winter flocks numbers from 1982/83-2002/03.

Greenland White-fronted Goose peak flock numbers for the winters 1982/83 to 2002/03

SEASON	GWF COUNT	SEASON	GWF COUNT	SEASON	GWF COUNT
1982/83	35	1989/90	50	1996/97	40
1983/84	38	1990/91	18	1997/98	-
1984/85	31	1991/92	10	1998/99	42
1985/86	41	1992/93	8	1999/00	24
1986/87	37	1993/94	17	2000/01	35
1987/88	47	1994/95	37	2001/02	17
1988/89	42	1995/96	40	2002/03	19

Golden Plover

Golden Plover breed within the site. Several pairs were recorded in the Owenduff headwaters in the late 1960s and along the Nephin Beg Ridge in 1981. More recently, 14 breeding pairs were recorded in 2004 during the Upland Bird Survey. This survey was carried out in Mayo and Connemara and the main focus was detecting and determining of Golden Plover breeding status. The extensive tracts of blanket bog and heath within the Owenduff-Nephin SPA provide excellent habitat for this species.

Merlin

Merlin typically hunt over blanket bog and heath using open ground among heather, or old nests of crows in trees for breeding. Merlin are known to use this site for hunting and there are a number of known Merlin plucking posts. There is however, no quantitative information relating to breeding numbers. It is estimated that there are between four and eight Merlin breeding pairs within the site.

Peregrine Falcon

Two out of three Peregrine breeding territories within the site are generally occupied in any one year. The cliffs provide excellent nesting ledges.

Hen Harrier

Hen Harrier use the site for hunting, but there are no breeding records.

Whooper Swan

This species is known to utilise the site for short periods of time in winter while on passage between winter and breeding quarters.

Red Grouse

Red Grouse utilise heather-dominated bog and heath habitats. Their principal food is Ling Heather, although other species such as Crowberry, Bilberry and Common Cotton-grass are also eaten in spring and summer. Tall heather is required for nesting and shelter for chicks, and mixed aged stands are required for feeding.

A survey carried out between late March and early May 2002 (Murray & O'Halloran, 2003) estimated a population density of between 1.4 and 1.7 birds per km² amounting to an estimated population of 149 to 213 pairs (363 to 427 individuals) in the SPA.

Comparison with a previous study on Red Grouse populations in the area from the 1970s (Watson & O'Hare, 1979), which gave an estimated population density of 5 birds per km², indicate that there has been a population decline of between 67% and 72% in the last 2 decades. This is broadly in line with estimates for the national population decline (Gibbons *et al.*, 1993) attributed to habitat loss and increases in predation levels. In the 2002 survey, a strong positive correlation was found between population density and heather coverage (Murray & O'Halloran, 2003).

Mammals

Otter, Irish Hare (*Lepus timidus hibernicus*) and Badger (*Meles meles*), all listed as Internationally Important species in the Irish Red Data Book (Whilde, 1993), inhabit the site. Otter is a qualifying interest for the cSAC. Fox (*Vulpes vulpes*), Rabbit (*Oryctolagus cuniculus*) and Mink (*Mustela vison*) have also been recorded in the site.



Irish Hare (Lepus timidus hibernicus)

Red Deer (*Cervus elaphus*) are found on the eastern margins of the site. They are of farmed origins and were first recorded around 2000.

Land Use

Land use on the site

Agriculture

Grazing is the main landuse activity throughout the site. Sheep and cattle graze areas of blanket bog, heath and grassland. Most of the land is not enclosed and grazing is extensive. Overgrazing by sheep has caused severe damage in places.

The impacts of grazing on the commonage areas of this site were assessed by the Commonage Framework Planning Project in 2000. The relevant framework plans are MA 11, 18, 19 and 20. The impacts of grazing on some areas of the National Park were also assessed. For the total area assessed, <1% was found to be undamaged, 60% moderately damaged and 41% severely damaged.

A monitoring exercise was carried out over the winter months of 2004/05 to assess recovery of vegetation since the original assessments were undertaken in 2000. The original commonage area surveyed was 14,164 ha, while 5,255 ha of non-commonage land was assessed. 6,194 ha was re-assessed (i.e. surveyed in detail) during this monitoring exercise. The re-assessment indicated that after revisiting more than 30% of the original surveyed area, no appreciable recovery has taken place.

National Park Management

The large state-owned area of land comprising Ballycroy National Park is principally managed for nature conservation purposes. Apart from two former landowners with grazing agreements, livestock are not put out to graze within the National Park. However, livestock trespass into the National Park does occur from adjacent lands.

The main issue for National Park management is overgrazing and for the purposes of monitoring vegetation recovery in degraded habitats, 9 exclosures (to exclude sheep) were set up in 1996. 8 were 5m by 5m with the 9th being 20m by 20m. They were established on a variety of peatland habitats including upland blanket bog, lowland blanket bog, heath and upland grassland. The vegetation in these exclosures has been monitored since their establishment.

Survey results indicate that exclusion of sheep grazing allows vegetation to recover. Rates of recovery are variable, depending on initial levels of degradation and habitat type. Upland blanket bog degraded by climatic events as well as by grazing is slow to recover. Lowland blanket bog is generally less favoured by sheep, but degraded areas of this habitat can recover relatively quickly. Upland grassland and heath are favoured by sheep and such areas were significantly degraded in 1996. However, vegetation can recover relatively rapidly once sheep are excluded (Farrell, 2004).

NPWS has carried out a survey to assess the condition of trails and bridges within the National Park. Proposals for their improvement and enhancement are also being considered.

Blanket Bog Restoration	Coillte are currently carrying out restoration works on an area of blanket bog at Bellaveeny. This site is part of a larger EU LIFE funded project to rehabilitate blanket bog habitat at 14 Coillte sites throughout the country. Work within the cSAC at Bellaveeny includes felling of existing conifers and fencing of unplanted land. Recovery rates of the blanket bog and wet heath habitats will be studied.
Peat Cutting	Peat cutting occurs within the site but is largely confined to areas along roads and tracks, in particular along the southern and western parts of the site. Both hand cutting and machine cutting (in limited areas) occurs, although cutting with sausage machine is prohibited.
Quarrying	Small scale quarrying occurs at a few locations where mineral deposits (mainly gravels) and stone are exposed. Quarrying is mainly for domestic use, including construction and maintenance of bog roads or tracks.
Recreation	The principal walking route in the site is the Bangor Trail. Other tracks are also used by hill walkers. Motorcross/scrambling bikes occasionally use the site, particularly the Bangor Trail.
Commercial Forestry	Two relatively small areas within the site are planted with conifers and are managed as commercial plantations.
Hunting	The shooting rights are in multiple private ownership. However, little shooting is carried out within the site.
Fishing	The Owenduff and Owenmore Rivers are popular for Salmon fishing. The Owenmore River also supports a more limited Brown Trout fishery.
Water Abstraction	Water is supplied to the Ballycroy community from Lough Anaffrin.

Land use adjacent to the site

Agriculture	One of the main landuse activities outside the site is agriculture. Sheep and cattle are grazed extensively on unenclosed land. Cattle, and sometimes sheep, are grazed more intensively on enclosed land near farms, villages and other centres of habitation. In these locations, marginal land has been improved for cultivation of grass and other crops (mainly oats and potatoes). Hay and silage are made. Silage is stored in pits or as wrapped bales.
Nature Conservation	Corraun Plateau and Clew Bay cSACs adjoin the site. Other sites nearby of ecological importance include Bellacorrick Bog and Carrowmore Lake.
Peat Cutting	This occurs widely throughout the region. Peat cutting is both mechanical (mainly by 'sausage' machine) and by hand.
Research	The Salmon Research Agency, which is now part of the Marine Institute, has been carrying out research in Lough Feeagh and Lough Furnace for the past 20 years. Fisheries in the rivers in the area are monitored by the North Western Regional Fisheries Board.
Tourism and Recreation	The Galway/Mayo region is the third most popular region for tourism in Ireland after Dublin and the South West. North-west Mayo is noted as an important destination for fishing.
Wind Farms	A wind farm is located on an area of cutover bog near Bellacorrick, to the northwest of the site.

Habitation	There are several villages around the site. The largest nearby population/service centre is Newport. Villages in close proximity to the site include Bangor, Ballycroy, Mulranny, Keenagh and Bellacorrick.
Commercial Forestry	There has been extensive planting of conifers in north Mayo in recent decades. The cSAC boundary follows plantation edges over considerable distances.
Roads and Tracks	The N59 runs around the perimeter of the site to the north, south and west of the site, which provides access to the cSAC from Newport or Ballina/Crossmolina. Elsewhere there are a number of minor roads and tracks.

Past human use

Mayo supported a higher rural population in the past and more land would have been under cultivation than is today. Evidence of this can be seen from the abundance of pre-famine cultivation ridges or 'lazy beds' throughout the site.

Recorded Monuments and Other Features

Several sites and recorded monuments are known to occur within the site, the details of which are in the table below.

MONUMENT NO.	DESCRIPTION	NAT. GRID	TOWNLAND
MA035-00501	Cairn	86590; 313160	Owenglass
MA035-00502	Cairn	86560; 313100	Owenglass
MA035-00503	Cairn	86520; 313070	Owenglass
MA035-00504	Cairn	86550; 313130	Owenglass
MA036-002	Cairn	91500; 314500	Uggool
MA036-005	Cairn	92060; 312250	Altnabrocky
MA045-001	Non-antiquity	89370; 306700	Lurgandarragh

CONSERVATION VALUE OF OWENDUFF/NEPHIN COMPLEX cSAC & SPA

The Owenduff/Nephin Complex cSAC/SPA encompasses one of the largest tracts of blanket bog and associated habitats in the country. The Owenduff River system is one of the best examples of a little-modified river system in western Europe.

The site extends from the low-lying river floodplains to the peaks of the Nephin Beg mountain range, with a maximum altitude of 717m. The cSAC includes eight habitats listed in Annex I of the Habitats Directive and four Annex II species, while the SPA has been designated for four species listed in Annex I of the Birds Directive, as well as supporting other notable bird species, such as Red Grouse.

While areas of the site have suffered from overgrazing, leading to varying levels of vegetation damage and erosion, it nevertheless includes excellent examples of blanket bog and other habitats listed on Annex I of the Habitats Directive, as well as supporting a diverse upland bird community.

Implementation of de-stocking requirements by the Department of Agriculture and Food, as specified in the commonage framework plans and effective conservation management of the National Park will facilitate recovery of damaged habitats.

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.

The latter definition of favourable conservation status is also useful for birds, as there is no comparable definition in the Birds Directive.

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|---------------------|---|
| Objective 1: | To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; active blanket bog (approximately 64% of the site), Northern Atlantic wet heaths, Alpine and boreal heath, oligotrophic waters with few minerals, oligotrophic to mesotrophic standing waters, natural dystrophic lakes and ponds, water courses of the plain to montane levels, transition mires and quaking bogs and <i>Juniperus communis</i> formations. |
| Objective 2: | To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; Shining Suckle Moss, Marsh Saxifrage, Otter and Salmon. |
| Objective 3: | To maintain the species for which the SPA has been selected at favourable conservation status; Greenland White-fronted Goose, Golden Plover, Merlin and Peregrine Falcon. |
| Objective 4: | To maintain the extent, species-richness and biodiversity of the site. |

- Objective 5:** To continue to develop Ballycroy National Park, Co. Mayo.
- Objective 6:** 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.

- **Afforestation**
- **Decline in Greenland White-fronted Geese numbers**
- **Dumping**
- **Fencing**
- **Livestock trespass into Ballycroy National Park**
- **Loss of Red Grouse habitat**
- **Motor vehicle use**
- **Overgrazing**
- **Peat cutting**
- **Poor state of trails**
- **Poor water quality**
- **Quarrying**
- **Rhododendron infestation**

Afforestation

Afforestation of areas that are acid-sensitive can lead to acidification of aquatic habitats, which in turn may lead to a decrease in species diversity. A study of the Lough Feeagh catchment, which included sample areas from Glennamong (within the site), indicated that there is a relationship between the area of forest cover and acidification here (Allott, 1993).

Forestry operations during planting and harvesting are liable to produce silt loads in surface waters. Siltation has negative effects on biodiversity in aquatic systems and affects Salmon at all stages of its lifecycle.

Decline in Greenland White-fronted Geese Numbers

The number of Greenland White-fronted Geese over-wintering in the Owenduff-Nephin complex has declined over the past number of years. While this is mainly due to factors outside the site, over-grazing of their feeding grounds and disturbance may be contributing factors.

Dumping

There is a low level of dumping occurring in several areas which were formerly used for quarrying of stone and gravel.

Fencing

In recent years, levels of fencing have increased within the site. Fencing tends to concentrate livestock into smaller areas, thus leading to erosion and over-grazing.

Fencing also restricts the movement of Grouse.

Livestock trespass into Ballycroy National Park

There is livestock trespass into the National Park through unfenced boundaries. Such trespass has contributed to overgrazing within the National Park area.

Loss of Red Grouse habitat

Maintenance of a mixture of ages of heather as well as cover is an important factor for maintaining Grouse numbers, with the taller heather being used for nesting and sheltering of young, and a combination of ages used for feeding. Any damage to, or removal of, heather-dominated habitats such as that caused by overgrazing (see below) will have a negative impact on the Grouse population. This was borne out by the results of the 2002 survey which showed a strong positive correlation between population density and heather coverage (Murray & O'Halloran, 2003).

Motor vehicle use

All terrain vehicles (ATVs) and motor bikes are having adverse impacts in certain areas of the site by damaging vegetation, exacerbating erosion and causing disturbance to birds and other wildlife.

Overgrazing

Overgrazing by sheep and cattle is causing damage to large areas of the site. Severe overgrazing has led to loss of habitat; erosion; decline in water quality and has overall, adversely impacted on the conservation value of the site. The CFPs and grazing assessments carried out in 2000 indicated that approximately 83% of the assessed area required 25% or higher de-stocking. Re-assessment of certain areas in 2004/2005 has established that the situation has not improved in the intervening years.

Peat cutting

Peat cutting is occurring along the roads and tracks around the periphery of the site, particularly along the southern, south-western and western boundaries. Machine cutting is carried out in limited areas, with hand cutting of peat still widely practised.

Poor state of trails

Walking trails within the site are in a poor state of repair. This problem will be exacerbated if walkers have to divert from paths, leading to much wider areas being subject to trampling. Some foot bridges within the site are also in a state of disrepair.

Poor water quality

Overgrazing and afforestation in north-west Mayo is known to affect water quality. Overgrazing has led to loss of vegetation cover followed by erosion in upland areas, which has led to siltation of rivers and lower lying lakes by the import of eroded peat. In recent water quality surveys of the Owenmore River, siltation from commercially exploited peat bogs in the catchment was noted in upper sections of the river (EPA, 2003).

Overgrazing is also linked with deteriorating water quality in relation to the clogging of gravel beds used by spawning Salmon and Sea Trout, which has led to reduced fish survival rates. It has also been linked with a reduction in water clarity in nursery areas for fish in Lough Feeagh and an increase in humic content in the lakes, which reduces light penetration and primary production.

Bowman *et al.* (1996) also identifies high bacterial counts (from sheep faeces) and eutrophication (from nutrients in sheep faeces) as impacts of overgrazing on aquatic systems. The number of sheep in some areas, such as around Lough Anaffrin, has caused a decline in water quality due to the run off from sheep faeces (and therefore *E. coli*) into aquatic systems. This has affected drinking water quality.

Quarrying

There are a number of locations in the site where small-scale quarrying occasionally occurs. Quarries are subject to registration with, and licensing by, Mayo County Council.

Rhododendron infestation

Rhododendron is present in parts of the site and is spreading. It has been recorded from the banks of the Owenduff River, in areas of blanket bog, on some of the lake islands (where it occurs with Juniper scrub and is a threat to this Annex I habitat) and is becoming more prevalent around the periphery of the site.

General Strategies

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

Implement plan

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 NPWS 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 VIII)
- enforcement of Regulations under the Habitats/Birds Directives and the Wildlife Acts

Establish a monitoring regime

The monitoring regime for the site will comprise:

Water quality monitoring

Water quality is monitored at regular intervals by the EPA.

Under the Water Framework Directive local authorities are obliged to establish River Basin District plans covering all inland and coastal waters that will lead to the identification and implementation of effective measures for improved water management.

NPWS will liaise with the EPA, Mayo Co. Council and other relevant statutory agencies and research organisations to:

- determine the quality and quantity of waters associated with water dependent habitats
- establish reference conditions necessary for monitoring the status of the habitats and species and to
- ensure that the sampling regime is adequate to detect changes in their conservation status

Scientific monitoring

Monitoring of the conservation status of the Annex I habitats, Annex II species and Annex I bird species 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 Owenduff/Nephrin Complex cSAC & SPA will be developed, in consultation with other agencies where appropriate, to determine if the site is being maintained at favourable conservation status.

Site surveillance

Inspection of the site by NPWS staff, with special attention to the qualifying interests and grazing levels will identify any major changes, damaging operations, or threats should they arise.

Enforce notifiable actions

Certain activities may be restricted in SACs and SPAs. Notifiable Actions for particular habitats and species are listed in Appendix VI of this plan. Consent from the Minister may be required before these actions may be carried out within the designated area. For example, grazing above sustainable levels, supplementary feeding and water extraction are notifiable actions for habitats within the cSAC.

For the SPA, notifiable actions include burning of areas of vegetation; planting of trees; broad-scale application of any pesticide or herbicide.

Specific Strategies

Objective 1.

To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; *active blanket bog (approximately 64% of the site), Northern Atlantic wet heaths, Alpine and boreal heath, oligotrophic waters with few minerals, oligotrophic to mesotrophic standing waters, natural dystrophic lakes and ponds, water courses of the plain to montane levels, transition mires and quaking bogs and *Juniperus communis* formations.

Strategies:

- 1.1. Manage grazing on commonage** It is anticipated that the combination of reduced quotas, full implementation of the CPs by the Department of Agriculture and Food, and the decoupling of premia and headage payments from 2005 will bring about a substantial reduction of hill sheep with resultant improvement in vegetation on commonages.

If further monitoring shows otherwise, additional destocking or stock management will be necessary.

The zoning map (Map 5) reflects the findings of the CP assessments, and these are specified in the prescriptions for each individual zone. Individual CPs should be consulted for further details.
- 1.2. Manage grazing within the National Park** NPWS will work with livestock owners to ensure that all trespassing stock are removed from the National Park. NPWS will strive to inform livestock owners through meetings, notices and the media that trespassing animals must be removed.

Limited fencing may be carried out in specific areas to facilitate vegetation rehabilitation.
- 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 NPWS farm plans, using a similar methodology applied to commonage areas.
- 1.4. Control spread of Rhododendron** Control of Rhododendron will be made a condition of REPS and NPWS farm plans. NPWS will liaise with REPS planners to ensure that this occurs.

In the National Park, Rhododendron infestation will be mapped and a plan for its control initiated.
- 1.5. Control further fencing of lands** NPWS will liaise with REPS planners and NPWS farm planners to ensure that further fencing is only carried out where deemed essential and where such fencing will not affect the functions of habitats and species within the site.

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| <p>1.6. Minimise impacts of peat cutting</p> | <p>Cutting of peat by hand and face bank machine, within the less sensitive areas of the site, may usually continue.</p> <p>Cutting by ‘sausage machines’ will not be permitted.</p> <p>On particularly sensitive areas of 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 (€17.43 per acre).</p> <p>In the National Park, traditional hand cutting of turf for domestic purposes will be regulated by permit and mechanical extraction will be phased out.</p> |
| <p>1.7. Maintain and enhance lakes and other wetlands</p> | <p>No specific intervention is required to maintain lakes. The implementation of sustainable grazing regimes (under objective 1) will assist in maintaining and improving water quality. The implementation of the general monitoring strategies and liaison between NPWS and the County Council regarding development applications will further ensure the maintenance of these habitats.</p> |

Objective 2.

To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; Shining Sickle Moss, Marsh Saxifrage, Otter and Salmon.

Strategies:

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| <p>2.1. Maintain habitats for Annex II species</p> | <p>The implementation of Strategies 1.1-1.7 will result in the maintenance of habitats for relevant Annex II species.</p> |
| <p>2.2. Conduct further survey of important plant species</p> | <p>Further survey work will be carried out to establish the status of some of the previously mentioned notable species (see ‘Notable Flora’ section), including Annex II species.</p> |
| <p>2.3. Maintain the Otter and Salmon populations</p> | <p>No intervention is required to maintain these populations as the specific and general strategies designed to protect aquatic habitats within the site will ensure the maintenance of these two species (Strategy 1.7).</p> |

Objective 3.

To maintain the species for which the SPA has been selected at favourable conservation status; Greenland White-fronted Goose, Golden Plover, Merlin & Peregrine Falcon.

Strategies:

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| 3.1. Protect wintering populations of Greenland White-fronted Geese | An investigation into the cause of the decline in Greenland White-fronted Goose numbers is ongoing on a national basis and may provide some information on the future status of the Ballycroy flock. The reduction of grazing pressure and associated disturbance (strategies 1.1-1.3) may encourage the Greenland White-fronted Geese to continue to over-winter here. |
| 3.2. Collect further bird population information | NPWS will prepare a bird distribution map for the site. |
| 3.3. Liaise with shooting rights holders | NPWS will liaise with shooting rights holders with regards to the possibility of purchasing the shooting rights within the National Park. |
| 3.4. Undertake research on Golden Plover | NPWS is funding PhD research to investigate breeding Golden Plover in the SPA. |

Objective 4.

To maintain the extent, species-richness and biodiversity of the site.

Strategies:

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| 4.1. Maintain other habitats of ecological value | No specific management is required to maintain these habitats, as they occur in mosaic with the large area of blanket bog. The implementation of the strategies to maintain and enhance the Annex I habitats (Strategies 1.1-1.7 and the general strategies) will also ensure the maintenance of the other habitats of ecological value. |
| 4.2. Maintain and upgrade tracks and footbridges | <p>NPWS will liaise with Mayo County Council regarding the need to upgrade trails, footbridges and boardwalks in very wet/flush areas within the site.</p> <p>Mayo County Council are upgrading parts of the Western Way Trail which joins the Bangor Trail in the east of the site. Liaison between NPWS and the County Council will be carried out to determine if a joint project could be undertaken to upgrade the trails and tracks within the site to improve visitor access. This would also involve upgrading and providing footbridges and boardwalks to cross rivers, streams and flush areas.</p> <p>The Bangor Trail within the National Park has been surveyed to determine optimal methods for its maintenance and repair. NPWS will consult with the National Monuments section regarding any works on this trail. Mayo County Council will also be consulted. Signage will be erected indicating the route of the Bangor Trail and the boundary of Ballycroy National Park.</p> |
| 4.3. Maintain the Ivy-leaved Bellflower population | NPWS will map the range and extent of the Ivy-leaved Bellflower over the lifetime of this Plan. |

- 4.4. Maintain the Red Grouse population** The strategies laid out under objective one are designed to improve the habitats required by Red Grouse for breeding and foraging. Prevention of further over-grazing and recovery of heather-dominated vegetation will enhance areas used by Red Grouse.
- NPWS will continue to monitor the Grouse population.

Objective 5.

To continue to develop Ballycroy National Park., Co. Mayo

Strategies:

- 5.1. Prepare National Park management plan** A detailed management plan for Ballycroy National Park, Co. Mayo will be prepared.
- 5.2. Produce vegetation map** NPWS will commission a vegetation map for the National Park. This will provide baseline data to assist with monitoring the effects of various management regimes on habitats and species within the National Park.
- 5.3. Develop National Park visitor facilities** Planning permission has been approved for a National Park Visitor Centre in Ballycroy and a steering committee has been established to oversee the development of this centre. Existing office facilities will be refurbished to include laboratory facilities.
- NPWS will erect information boards and signs at access points to the site. These will outline the importance and overall conservation value of the site.
- 5.4. Establish Liaison Committee for the National Park** NPWS will set up a Liaison Committee for the National Park.

Objective 6.

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

Strategies:

- 6.1. Liaise with interested parties** NPWS will strive to initiate and maintain effective liaison with landowners, users, relevant authorities and interested parties on achieving the objectives for conservation of the site.
- 6.2. Liaise with REPS planners** REPS planners should consult with local NPWS staff when they are developing plans for land within the site.

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- 6.3. Liaise with Coillte**
- NPWS will liaise with Coillte:
- to ensure that forestry fences are repaired and maintained to prevent trespass of livestock into the site, particularly if the practice of leasing plantations for sheep grazing is to continue
 - regarding the application of fertilisers, installation and maintenance of silt traps and clear felling of conifers adjacent to the site, to ensure that these practices have minimum impact on vulnerable habitats and species
 - regarding the LIFE funded bog restoration project at Bellaveeny.
 - to discuss the possible transfer of adjacent, unplanted lands of conservation value that are in Coillte ownership to NPWS to advise regarding some forestry planted on very wet bog in particular to the ecological and hydrological requirements of these areas to ensure that attempts to redrain/replant these areas are not carried out. The possibility of acquiring these lands from Coillte will be pursued
- 6.4. Liaise with North West Regional Fisheries Board (NWRFB)**
- NPWS will liaise with NWRFB in relation to the continuing monitoring of fish populations 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: Lakes, ponds, streams and rivers

Strategies 1.7, 4.2, 6.4 and the relevant general strategies apply.

2A: MAINTENANCE AREAS WITH LIMITED MANAGEMENT INTERVENTION

2A1: Commonage assessed as undamaged in the Commonage Plans

Strategies 1.1, 1.4, 1.5, 1.6, 6.1, 6.2 and the relevant general strategies apply.

2A2: National Park land assessed as undamaged

Strategies 1.2, 1.4 and the relevant 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: Commonage assessed as damaged in the Commonage Plans

Strategies 1.1, 1.4, 1.5, 1.6, 6.1, 6.2 and the relevant general strategies apply.

B2: National Park land assessed as damaged

Strategies 1.2, 1.4, and the relevant general strategies apply.

B3: Lands which have not been assessed (National Park & privately –owned)

Strategy 1.2, 1.3, 1.4, 1.5, 1.6, 6.1, 6.2 and the relevant general strategies apply.

Zone C: Intensive use Zone

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

C1: Designated walking trails

Strategies 4.2, 6.1 and the relevant general strategies apply.

C2: Areas with active peat-cutting

Strategy 1.6 and the relevant general strategies apply.

C3: Areas of conifer plantation/ bog restoration

Strategies 6.1, 6.3 and the relevant general strategies apply.

Zone D: Impact Zone

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

D1: Areas of conifer plantation outside the site

Strategy 6.3 and the relevant general strategies apply.

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.	Manage grazing on commonage	Implement sustainable grazing regimes in accordance with Commonage Framework Plans	Dept. of Agriculture/ NPWS/ Grazing rights holders			
1.2.	Manage grazing within the National Park	Remove trespassing sheep from the National Park	NPWS			
1.3.	Manage grazing on privately owned lands	Conduct grazing assessments.	REPS/NPWS farm plans			
1.4.	Control spread of Rhododendron	Make Rhododendron clearance a condition of REPS/NPWS farm plans. Map Rhododendron spread in the National Park and initiate plan for its control.	REPS/NPWS farm plans/NPWS			
1.5.	Control further fencing of lands	Liaise with REPS/NPWS farm planners to ensure further fencing is only carried out where essential.	REPS/NPWS farm plans			
1.6.	Minimise impacts of peat cutting	Cutting by hand & face bank machine may usually continue. Cutting by sausage machine not permitted	NPWS/ Turbary rights holders			
1.7.	Maintain and enhance lakes and other wetlands	No specific intervention. See Strategies under objective 1 and the general strategies.	-			
2.1.	Maintain habitats for Annex II species	See Strategies 1.1-1.7.	-			
2.2.	Conduct further survey of important plant species	Carry out further survey work to establish the abundance of important plant species.	NPWS			
2.3.	Maintain the Otter and Salmon populations	No specific intervention. See Strategy 1.7	-			
3.1.	Protect wintering populations of Greenland White-fronted Geese	Continue national investigation into decline of Greenland White-fronted Geese.	NPWS			

TABLE Summary of Specific Strategies CONTINUED.....

	Strategy	Action required	Who to implement	When/Duration/ Frequency	Estimated Total Cost	Additional Resources needed
3.2.	Collect further bird population information	Prepare a bird distribution map for the site.	NPWS			
3.3.	Liaise with shooting rights holders	Liaise with shooting rights holders regarding possibility of purchasing shooting rights	NPWS			
3.4.	Undertake research on Golden Plover	Fund PhD research.	NPWS			
4.1.	Maintain other habitats of ecological value	No specific intervention. See Strategies 1.1, 1.3-1.7 and the general strategies.	-			
4.2.	Maintain and upgrade tracks and footbridges	Liaise with Mayo County Council and regarding maintenance and upgrade of tracks and footbridges within the site. Erect signage.	NPWS/ Mayo Co. Co.			
4.3.	Maintain the Ivy-leaved Bellflower population	Map range and extent of Ivy-leaved Bellflower.	NPWS			
4.4.	Maintain the Red Grouse population	See strategies under objective 1.	-			
5.1.	Prepare National Park management plan.	Prepare detailed management plan for Ballycroy National Park	NPWS			
5.2.	Produce vegetation map	Commission vegetation map for the National Park	NPWS			
5.3.	Develop National Park visitor facilities	Develop visitor centre at Ballycroy. Erect information boards & signs	NPWS/Steering Committee			
5.4.	Establish Liaison Committee for the National Park	Set up a Liaison Committee for the National Park.	NPWS			
6.1.	Liaise with interested parties	Maintain effective liaison with interested parties on achieving conservation objectives.	NPWS			
6.2.	Liaise with REPS planners	REPS planners should consult with NPWS when developing plans for land within the site.	REPS planners			
6.3.	Liaise with Coillte	Liaise with Coillte	NPWS/ Coillte			
6.4.	Liaise with North West Regional Fisheries Board (NWRFB)	Liaise with NWRFB regarding fish populations.	NPWS/ NWRFB			

APPENDIX I: GLOSSARY

ABSTRACTION - The process of taking water from a river, stream, spring pond or lake or from ground water. This process is “abstracting” water or making an “abstraction”.

ACIDIFICATION - The detrimental effect of acid rain on soils and freshwater.

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

ALTITUDE - Vertical height above sea level.

AMMONIA - A chemical (NH_3) which is often found in water as the result of discharge of sewage effluents, or from run-off due to the application of fertilisers (ammonia is a form of nitrogen found in fertilisers). High levels of ammonia adversely affect water quality.

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.

AQUATIC ENVIRONMENT – Rivers, streams, lakes, ponds, springs and features that depend on natural waters e.g. marsh, bogs and wetlands.

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

BASE POOR SOILS - Soils that only slowly release the dissolved chemicals or minerals contained within them.

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

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

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

BIRDS DIRECTIVE (Council Directive 79/ 409/ 2nd April 1979) - Under this Directive Ireland is required to conserve the habitats of two categories of wild birds: 1) Listed rare and vulnerable species and 2) Regularly occurring migratory species. The Directive also obliges Ireland to

conserve wetlands, especially those of international importance and regulates the hunting and trading of wildbirds. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

BLANKET BOG - 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.

CAIRN - A mound of stones erected as a memorial or marker, some of which are of historical significance.

CALCAREOUS - Made of or containing calcium carbonate (CaCO_3) and therefore alkaline. limestone for example

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.

CHEMICAL WEATHERING - The processes of weathering in which chemical reactions transform rocks and minerals into new chemical combinations that are stable under conditions prevailing at or near the Earth's surface.

COLONISATION - The entry and spread of a species into an area, habitat or population from which it was formerly absent.

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.

COMMUNITY - a well-defined assemblage of plants and/or animals, clearly distinguishable from other such assemblages.

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

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

CORRIE - A circular hollow on a hillside formed by glacial scouring.

CUTOVER BOG - 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.

DIPTERA - The invertebrate order of true flies.

DIVERSITY - see biodiversity.

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

DYSTROPHIC – shallow lake that is a dark brown colour due to the presence of organic material, and are of low biological productivity and have poor light penetration

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.

EPA – Environmental Protection Agency

EROSION - The processes whereby the materials of the Earth's crust are dissolved, or worn away and simultaneously moved from one place to another by natural agencies which include weathering, solution, corrosion and transportation.

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

EUTROPHIC – Biological effects of an increase in plant nutrients on aquatic systems

FAUNA - Animal life.

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

FLOATING VEGETATION OF *RANUNCULUS* OF PLAIN (OR SUBMOUNTAINOUS RIVERS) - an Annex I Habitat listed under the EU Habitats Directive. This habitat refers to water courses of plain to montane levels, with submerged or floating vegetation of *Ranunculus fluitans* (Water-crowfoot) and *Callitriche* spp. or aquatic mosses.

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.

FORMATION – A geological term for a body of rocks having easily recognised boundaries that can be traced in the field, and large enough to be represented on a geological map as a practical and convenient unit for mapping and description.

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

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

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

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

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

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

INVERTEBRATES - Animals without backbones.

JUNIPERUS COMMUNIS FORMATIONS ON CALCAREOUS HEATH (or grassland) - A habitat listed in Annex I of the EU Habitats Directive. This habitat is characterised by formations with *Juniperus communis* (Juniper) of plain to mountain levels.

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

LEPIDOPTERA - Moths and butterflies.

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.

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

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

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

MESOTROPHIC – freshwater lake systems containing moderate concentrations of mineral nutrients, such as phosphorous, calcium and nitrogen

MICROTOPOGRAPHY - Very small-scale variations in the height and roughness of the ground surface.

MINEROTROPHIC MIRE - A peatland system that is fed by ground water.

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.

MOSAIC - Used to describe habitats that occur together and cannot easily be mapped separately.

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

NATIONAL PARKS AND WILDLIFE 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.

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

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

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

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

NPWS - National Parks and Wildlife Service

OLIGO – Prefix denoting few or little

OLIGOTROPHIC - Applied to waters that are relatively low in nutrients, as in lakes which are low in dissolved minerals and which can only support limited plant growth.

ORGANISM - Any living thing.

OS – Ordnance Survey

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

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

PEAT CUTTING BY MACHINE - See mechanical peat extraction.

PERENNIAL - Referring to plants that live for two years at least.

PERIPHERY - Distant from the centre, on the fringe/edge.

pH - A quantitative expression for the acidity or alkalinity of a solution or soil. The scale ranges from 0-14: pH 7 is neutral, less than 7 is acidic and greater than 7 is alkaline.

PLATEAU - A wide, mainly level area of elevated land.

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

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

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 – A register of threatened species that includes definitions of degrees of threat.

RED DATA BOOK (lower plants) - This Red Data Book deals with Stoneworts which are recognised as a separate class, Characea, of the Green Algae Chlorophyta). Many of these species are threatened by loss of habitat or pollution.

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

agricultural land which are compatible with protection and improvement of the environment, the countryside, the landscape, natural resources the soil and genetic diversity; - long-term set-aside of agricultural land for reasons connected with the environment; - land management for public access;- education and training for farmers in types of farming compatible with the requirements of environmental protection and upkeep of the countryside.

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

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."

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

SEDIMENT - Solid particles that can originate by the weathering and erosion of pre-existing rock, by chemical precipitation from water, or by the breakdown of organisms.

SEDIMENTARY - Formed by the deposition of sediment, i.e. rock particles or chemical precipitate, or pertaining to the process of sedimentation.

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

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

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

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).

TILL - Unconsolidated, unsorted glacial deposits.

TILLITE – A former till that has become compacted and lithified (process by which sediments are converted into solid rock) to form a tough sedimentary rock.

TRADITIONAL MANAGEMENT PRACTICES Land management practices which were carried out prior to the 1950s. These practices were often less intensified than today's management practices. In REPS prescriptions traditional means an activity which has been carried out for a specified number of years on a site (usually 10 years).

TRANSITION MIRE – Acidophilous vegetation intermediate between poor fen and ombrotrophic (rain-fed) bog.

TURBARY – Refers to the right to harvest turf.

VERTEBRATES - Animals with backbones.

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.

WEATHERING - The process by which rocks are broken down and decomposed by the action of wind, rain temperature changes, plants and bacteria. See also chemical and mechanical weathering.

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

APPENDIX II: REFERENCE MATERIAL

Map References:

- O.S. 1/2 inch (1:126,720) map: 6
O.S. Discovery (1:50,000) map: 22, 23, 30, 31
O.S. 6 inch (1: 10,560) map: MO 26, 27, 35, 36, 44, 45, 56, 57, 66 and 67

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 Nos. 7646-7648, Flight Line 25; Aerial photo Nos. 7686-7688, Flight Line 26; Aerial photo Nos. 7837-7842, Flight Line 27 and Aerial photo Nos. 7875-7881, Flight Line 28. Date: 1995. NPWS, Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Aerial photo Nos. 9663, 9667 and 9686. Date: 1990. NPWS, 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

BELMULLET (16km from the north-east corner of the site)													
monthly and annual mean and extreme values 1961-1990													
TEMPERATURE (degrees Celsius)	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
<i>mean daily max.</i>	8.2	8.3	9.7	11.6	13.7	15.7	16.8	17.2	15.7	13.4	10.3	9	12.5
<i>mean daily min.</i>	3.1	2.9	3.9	4.9	7	9.5	11.1	11.1	9.8	8.2	5.1	4.3	6.7
<i>Mean</i>	5.7	5.6	6.8	8.2	10.3	12.6	14	14.1	12.8	10.8	7.7	6.6	9.6
<i>absolute max.</i>	13	13.8	19.4	23.3	26	27	28.7	27.4	22.4	22.1	15.2	13.5	28.7
<i>absolute min.</i>	-8.1	-6.3	-5.7	-2.6	-0.4	1.4	5.1	3.1	0.8	-0.7	-2.5	-5.2	-8.1
<i>mean no. of days with air frost</i>	5	4.3	2.1	0.9	0	0	0	0	0	0.1	1.3	3.1	16.7
<i>mean no. of days with ground frost</i>	10.5	9.5	7.3	5.4	1.9	0.1	0	0	0.5	1.7	5.5	7.8	50.3
RELATIVE HUMIDITY (%)													
<i>mean at 0900UTC</i>	85	84	82	80	78	81	85	85	84	85	85	85	83
<i>mean at 1500UTC</i>	81	77	75	73	73	77	80	79	78	80	80	83	78
SUNSHINE (hours)													
<i>mean daily duration</i>	1.47	2.41	3.29	5.27	6.14	5.36	4.29	4.63	3.65	2.63	1.74	1.08	3.5
<i>greatest daily duration</i>	7.9	9.8	11.2	14	15.6	15.8	15.4	14	12.5	9.8	8.1	6.7	15.8
<i>mean no. of days with no sun</i>	10	6	5	3	2	3	3	3	4	6	8	12	66
RAINFALL (mm)													
<i>mean monthly total</i>	123.5	80.1	95.8	58.1	68	67.3	67.6	93.7	108	132.9	127.7	119.9	1142.7
<i>greatest daily total</i>	32.2	23.6	25.9	20.4	26.5	35.2	44.9	57.3	56.1	67.8	56.4	40.5	67.8
<i>mean no. of days with >= 0.2mm</i>	23	19	23	19	18	18	19	20	21	24	23	24	249
<i>mean no. of days with >= 1.0mm</i>	20	15	18	13	14	12	12	15	16	19	19	19	193
<i>mean no. of days with >= 5.0mm</i>	9	6	7	4	5	4	4	6	7	9	9	9	80
WIND (knots)													
<i>mean monthly speed</i>	14.7	13.9	14.2	12.2	12.4	11.9	11.6	11.3	13	14.3	13.6	14.3	13.1
<i>max. gust</i>	91	93	88	67	69	73	67	60	84	85	76	89	93
<i>max. mean 10-minute speed</i>	58	61	58	43	47	47	45	44	57	58	50	60	61
<i>mean no. of days with gales</i>	5.5	4.2	3.3	1.1	1	0.4	0.3	0.8	2.3	3.6	3.4	4.5	30.5
WEATHER (mean no. of days with..)													
<i>snow or sleet</i>	4.6	4.4	4	1.6	0.2	0	0	0	0	0	0.7	2.6	18.1
<i>snow lying at 0900UTC</i>	0.8	0.6	0.3	0.1	0	0	0	0	0	0	0	0.4	2.3
<i>hail</i>	8.5	6.2	7.4	4	1.9	0.2	0.1	0.1	0.5	2.8	6.7	6.7	45.1
<i>thunder</i>	0.9	0.6	0.5	0.3	0.4	0.5	0.6	0.2	0.2	0.2	0.4	0.6	5.5
<i>fog</i>	1.1	0.6	0.7	1.7	1.3	2	3.3	2.4	1.1	1.2	0.6	0.6	16.6

Source: Met Eireann

APPENDIX IV: WATER QUALITY

Water Quality Owenduff River – Chemical parameters at Srahnamanragh Bridge (From 1998 to 2000)

Parameter	Parameter Units	Min.	Median	Max.	No. of Samples	Source	Source Type
B.O.D	mg/l O ₂	0.7	1.1	2.1	11	Castlebar	EPA
Chloride	mg/l Cl	12	23	29	11	Castlebar	EPA
Colour	Hazen	46	68	153	11	Castlebar	EPA
Conductivity	µS/cm	56	96	134	11	Castlebar	EPA
Dissolved Oxygen	mg/l O ₂	9.6	11.6	12.8	11	Castlebar	EPA
Dissolved Oxygen	% Saturation	98	102	111	11	Castlebar	EPA
Ortho-Phosphate	mg/l P	0.01	0.01	0.02	11	Castlebar	EPA
Oxidised Nitrogen	mg/l N	0.0	0.0	0.1	11	Castlebar	EPA
pH	pH	5.8	7.0	8.0	11	Castlebar	EPA
Temperature	°C	5.3	10.7	22.3	11	Castlebar	EPA
Total Ammonia	mg/l N	0.01	0.02	0.05	11	Castlebar	EPA
Un-Ionised Ammonia	mg/l NH ₃	0.000	0.000	0.001	11	Castlebar	EPA

Source: Interactive River Map, www.epa.ie

Water Quality Owenduff River – Chemical parameters at Srahnamanragh Bridge (From 1995 to 1997)

Parameter	Parameter Units	Min.	Median	Max.	No. of Samples	Source	Source Type
B.O.D	mg/l O ₂	0.3	1.6	2.2	13	Castlebar	EPA
Chloride	mg/l Cl	14	24	35	13	Castlebar	EPA
Colour	Hazen	40	70	125	13	Castlebar	EPA
Conductivity	µS/cm	70	106	143	13	Castlebar	EPA
Dissolved Oxygen	mg/l O ₂	10.7	12.3	13.1	12	Castlebar	EPA
Dissolved Oxygen	% Saturation	82	100	114	13	Castlebar	EPA
Ortho-Phosphate	mg/l P	0.01	0.01	0.01	13	Castlebar	EPA
Oxidised Nitrogen	mg/l N	0.0	0.1	0.2	24	Castlebar	EPA
pH	pH	5.7	6.8	8.1	13	Castlebar	EPA
Temperature	°C	1.1	7.4	14.4	12	Castlebar	EPA
Total Ammonia	mg/l N	0.01	0.02	0.06	13	Castlebar	EPA
Un-Ionised Ammonia	mg/l NH ₃	0.000	0.000	0.002	12	Castlebar	EPA

Source: Interactive River Map, www.epa.ie

It is noted that the sampling station at Shranamanragh Bridge is not within the cSAC, however it is the most relevant of sampling stations with chemical parameter data because it is located on the Owenduff River just downstream of the site boundary.

APPENDIX V: BIRD SPECIES

Bird Species recorded from the Site and their Conservation Status

Common Name	Scientific Name	Birds Directive ¹	BoCCI List ²
Cormorant	<i>Phalacrocorax carbo</i>	-	A
Grey Heron	<i>Ardea cinerea</i>	-	
Mute Swan	<i>Cygnus olor</i>	-	
Whooper Swan	<i>Cygnus cygnus</i>	Annex I	A
Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>	Annex I, Annex II	A
Mallard	<i>Anas platyrhynchos</i>	Annex II	
Hen Harrier	<i>Circus cyaneus</i>	Annex I	R
Sparrowhawk	<i>Accipiter nisus</i>	-	
Kestrel	<i>Falco tinnunculus</i>	-	
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I	A
Merlin	<i>Falco columbarius</i>	Annex I	A
Red Grouse	<i>Lagopus lagopus scoticus</i>	Annex II	R
Moorhen	<i>Gallinula chloropus</i>	-	
Golden Plover	<i>Pluvialis apricaria</i>	Annex I, Annex II	A
Dunlin	<i>Calidris alpina</i>	-	A
Snipe	<i>Gallinago gallinago</i>	Annex II	A
Woodcock	<i>Scolopax rusticola</i>	Annex II	A
Curlew	<i>Numenius arquata</i>	Annex II	R
Redshank	<i>Tringa totanus</i>	-	A
Common Sandpiper	<i>Actitis hypoleucos</i>	-	
Common Gull	<i>Larus canus</i>	-	A
Lesser Black Backed Gull	<i>Larus fuscus</i>	-	
Great Black Backed Gull	<i>Larus marinus</i>	-	
Woodpigeon	<i>Columba palumbus</i>	-	
Cuckoo	<i>Cuculus canorus</i>	-	A
Swift	<i>Apus apus</i>	-	
Swallow	<i>Hirundo rustica</i>	-	A
House Martin	<i>Delichon urbica</i>	-	
Sand Martin	<i>Riparia riparia</i>	-	A
Skylark	<i>Aluada arvensis</i>	-	A
Meadow Pipit	<i>Anthus pratensis</i>	-	
Grey Wagtail	<i>Motacilla cinerea</i>	-	
Pied Wagtail	<i>Motacilla yarrellii</i>	-	
Wren	<i>Troglodytes troglodytes</i>	-	
Dipper	<i>Cinclus cinclus</i>	-	
Robin	<i>Erithacus rubecula</i>	-	
Stonechat	<i>Saxicola torquata</i>	-	A
Snow Bunting	<i>Plectrophenax nivalis</i>	-	
Wheatear	<i>Oenanthe oenanthe</i>	-	
Song Thrush	<i>Turdus philomelos</i>	-	
Mistle Thrush	<i>Turdus viscivorus</i>	-	
Fieldfare	<i>Turdus pilaris</i>	-	
Blackbird	<i>Turdus merula</i>	-	
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	-	

Common Name	Scientific Name	Birds Directive ¹	BoCCI List ²
Grasshopper Warbler	<i>Phylloscopus naevia</i>	-	A
Willow Warblers	<i>Phylloscopus trochilus</i>	-	
Goldcrest	<i>Regulus regulus</i>	-	
Blue Tit	<i>Parus caeruleus</i>	-	
Great Tit	<i>Parus major</i>	-	
Coal tit	<i>Parus ater</i>	-	
Treecreeper	<i>Certhia familiaris</i>	-	
Magpie	<i>Pica pica</i>	-	
Jay	<i>Garrulus glandarius</i>	-	
Rook	<i>Corvus frugilegus</i>	-	
Hooded Crow	<i>Corvus corone</i>	-	
Raven	<i>Corvus corax</i>	-	
Starling	<i>Sturnus vulgaris</i>	-	
Chaffinch	<i>Fringilla coelebs</i>	-	
Linnet	<i>Carduelis cannabina</i>	-	
Redpoll	<i>Carduelis flammea</i>	-	A
Goldfinch	<i>Carduelis carduelis</i>	-	
Greenfinch	<i>Carduelis chloris</i>	-	
Siskin	<i>Carduelis spinus</i>	-	
Bullfinch	<i>Pyrrhula pyrrhula</i>	-	
Crossbill	<i>Loxia curvirostra</i>	-	
Reed Bunting	<i>Emberiza schoeniclus</i>	-	

¹ Birds Directive: Annex I = The species listed in Annex I of the Birds Directive shall be the subject of special conservation measures concerning their habitats; for which SPAs must be designated

² BoCCI List: Annex II = The species listed in Annex II of the Birds Directive may be hunted
Birds of Conservation Concern in Ireland (Newton, Donaghy, Allen and Gibbons 1999)
R = Red (breeding population or range has declined by more than 50% in the last 25 years; their breeding population has undergone a significant decline since 1900; they are of global conservation concern)
A = Amber (breeding population has declined by 25-50% in the last 25 years; they are rare or sporadically breeding species; their breeding or wintering population is internationally important and/or localised; they have unfavourable conservation status in Ireland)

APPENDIX VI: NOTIFIABLE ACTIONS

The notifiable actions relating to the SPA are as follows:

- Blocking, altering or deepening watercourses or wetlands
- Burning of areas of vegetation
- Commercial or private recreational activities liable to cause significant disturbance to birds
- Commercial peat moss or turf extraction
- Grazing of livestock above a recommended density and period (as defined in REPS guidelines or approved farm plans)
- Land drainage, vegetation clearance or habitat destruction, except for routine maintenance
- Planting of trees
- Broad-scale application of any pesticide or herbicide
- Use of poison or stupefying bait

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

- Notifiable Action 2.1 - Upland grasslands, scree, inland cliff
- Notifiable Action 2.3 - Wet lowland grasslands
- Notifiable Action 3.1 - Blanket bog
- Notifiable Action 3.2 - Heath (including juniper scrub)
- Notifiable Action 4.2 - Fens, transition mires, petrifying springs
- Notifiable Action 6.1 - Rivers or streams
- Notifiable Action 6.2 - Lakes, ponds, canals
- Notifiable Action 6.3 - Marshes and reedbeds
- Notifiable Action 8.3 - River lamprey, sea lamprey, brook lamprey, salmon, twaite shad, fresh water pearl mussels, white-clawed crayfish, Killarney shad
- Notifiable Action 8.5 - *Vertigo* species, shining sickle moss
- Notifiable Action 8.8 - Marsh Saxifrage

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.

<p><u>SECTION A</u></p> <p>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.</p>	<p><u>SECTION B</u></p> <p>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).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.</p>
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HABITAT TYPE 2.1

UPLAND GRASSLAND, SCREE, AND INLAND CLIFF

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting/adding lime</p> <p>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</p> <p>using fertiliser on slopes over 25 degrees</p> <p>creation of new tracks or paths</p> <p>burning of vegetation</p> <p>reclamation, infilling, ploughing or land drainage reseeded, planting of trees or any other species</p> <p>rock removal/use of any pesticide or herbicide</p> <p>dumping, burning or storing any materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. pony trekking)/ introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p> <p>commercial turf cutting</p> <p>erecting or operating a windfarm</p>

In a very limited number of cases it may be necessary for the Minister for The Environment, 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 2.3

WET LOWLAND GRASSLANDS

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.

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

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting</p> <p>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 mowing grass before the 30th June (<i>Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply</i>)</p> <p>burning of vegetation</p> <p>reclamation, infilling, ploughing or land drainage/ reseeded, planting of trees or any other species use of any pesticide or herbicide</p> <p>dumping, burning or storing any materials</p> <p>alteration of the banks, bed or low of watercourses</p> <p>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</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p>

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.

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.

<p><u>SECTION A</u></p> <p>Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.</p>	<p><u>SECTION B</u></p> <p>Please note that the activities listed in <i>Section B overleaf</i> may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.</p>
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HABITAT TYPE 3.1

BLANKET BOG

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density or type of stock (as defined in approved farm plans)</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock, except as defined in REPS guidelines/ introduction of stock to formerly ungrazed areas</p> <p>adding lime/adding fertiliser of any sort</p> <p>creation of new tracks or paths/burning of vegetation/ reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas</p> <p>commercial peat moss or turf extraction</p> <p>use of any pesticide or herbicide, including sheep dip/ dumping, burning or storing any materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. pony trekking)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p> <p>erecting or operating a windfarm</p>

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

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

HABITAT TYPE 3.2

HEATH (INCLUDING JUNIPER SCRUB)

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>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</p> <p>supplementary feeding of stock, except as defined in REPS guidelines</p> <p>introduction of stock to formerly ungrazed areas</p> <p>adding lime/ adding fertiliser of any sort</p> <p>Creation of new tracks or paths</p> <p>burning areas of vegetation over 5 ha, or burning any area more often than once every 15 years</p> <p>reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas</p> <p>commercial peat moss or turf extraction</p> <p>use of any pesticide or herbicide, including sheep dip</p> <p>dumping, burning or storing any materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. pony trekking)</p> <p>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</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p> <p>erecting or operating a windfarm</p>

In a very limited number of cases it may be necessary for the Minister for The Environment, 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 4.2

FENS, TRANSITION MIRES, PETRIFYING SPRINGS

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.

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

HABITAT TYPE 4.2

FENS, TRANSITION MIRES, PETRIFYING SPRINGS

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans)</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting</p> <p>adding lime within 50m of the fen or a water course running into it</p> <p>adding fertiliser of any sort within 50m or a water course running into it</p> <p>extracting water for irrigation or other purposes</p> <p>mowing grass before the 30th June (Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply)</p> <p>supplementary feeding of stock</p> <p>operation of boat angling or shore angling business</p> <p>restocking with fish.</p> <p>reclamation, infilling, ploughing or land drainage within 50m of the fen</p> <p>reseeding, planting of trees or any other species within 50m of the fen</p> <p>use of any pesticide or herbicide within 50m of fen</p> <p>dumping, burning or storing any materials within 50m of the fen</p> <p>alteration of the banks, bed or flow of watercourses within the fen or running into or out of it</p> <p>harvesting reed or willow</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the fen</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p>

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 6.1

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.

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

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

HABITAT TYPE 6.1

RIVERS OR STREAMS

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>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</p> <p>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</p> <p>extracting water for irrigation or other purposes</p> <p>operation of boat angling or shore angling business/restocking with fish</p> <p>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</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them</p> <p>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</p> <p>harvesting or burning of reed or willow.</p> <p>causing siltation/ operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the river or stream</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>construction or operation of an aquaculture facility.</p> <p>fishing for eels or salmon</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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.

<p><u>SECTION A</u></p> <p>Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.</p>	<p><u>SECTION B</u></p> <p>Please note that the activities listed in <i>Section B overleaf</i> may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.</p>
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HABITAT TYPE 6.2

LAKES, PONDS AND CANALS

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density as defined in approved farm plans) within 50m of the lake, pond or canal</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock within 50m of the lake, pond or canal</p> <p>adding lime within 50m of the lake, pond or canal /adding fertiliser of any sort within 50m of the lake, pond or canal</p> <p>extracting water for irrigation or other purposes</p> <p>operation of boat angling or shore angling business/restocking with fish.</p> <p>within 50m of the lake, pond or canal: reclamation, infilling, ploughing or land drainage</p> <p>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</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them.</p> <p>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).</p> <p>alteration of the banks, channel, bed or flow of the lake, pond or canal or of watercourses running into or out of it</p> <p>harvesting or burning of reed or willow.</p> <p>causing siltation</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the lake, pond or canal</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>construction or operation of an aquaculture Facility.</p> <p>fishing for eels or salmon</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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 6.3

MARSHES AND REEDBEDS

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.

<p><u>SECTION A</u></p> <p>Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.</p>	<p><u>SECTION B</u></p> <p>Please note that the activities listed in <i>Section B overleaf</i> may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.</p>
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HABITAT TYPE 6.3

MARSHES AND REEDBEDS

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans) within 50m of the marsh or reedbed</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock within 50m of the marsh or reedbed</p> <p>adding lime within 50m of the marsh or reedbed</p> <p>adding fertiliser of any sort within 50m of the marsh or reedbed</p> <p>extracting water for irrigation or other purposes</p> <p>operation of boat angling or shore angling Business</p> <p>restocking with fish.</p> <p>reclamation, infilling, ploughing or land drainage within 50m of the marsh or reedbed</p> <p>reseeding, planting of trees or any other species within 50m of the marsh or reedbed</p> <p>removal of trees or any aquatic vegetation within 50m of the marsh or reedbed</p> <p>use of any pesticide or herbicide in the marsh or reedbed or within 50m of the marsh or reedbed</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in marsh or reedbed or into water-courses Running into them.</p> <p>dumping, burning or storing any materials within 50m of the marsh or reedbed including the land spreading of used pesticides (e.g. sheep dip).</p> <p>alteration of the banks, channel, bed or flow of the marsh or reedbed or of watercourses running into or out of it</p> <p>harvesting or burning of reed or willow.</p> <p>causing siltation</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the marsh or reedbed</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>construction or operation of an aquaculture facility.</p> <p>fishing for eels</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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 8.3

RIVER LAMPREY, SEA LAMPREY, BROOK LAMPREY, SALMON, TWAITE SHAD, WHITE-CLAWED CRAYFISH, FRESH WATER PEARL MUSSEL

(It is an offence under Wildlife Act 1976 to kill, injure or disturb these species)

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.

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

HABITAT TYPE 8.3

RIVER LAMPREY, SEA LAMPREY, BROOK LAMPREY, SALMON, TWAITE SHAD, WHITE-CLAWED CRAYFISH, FRESH WATER PEARL MUSSEL

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>fishing for fresh-water pearl mussels</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans) within 30m of the river or stream</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>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</p> <p>operation of boat angling or shore angling business, restocking with fish</p> <p>reclamation, infilling, ploughing or land drainage within 30m of the river or stream</p> <p>reseeding, planting of trees or any other species within 30m of the river or stream</p> <p>removal of trees or any aquatic vegetation within 30m of the river/stream</p> <p>use of any pesticide or herbicide in the river or stream or within 30m of the river or stream</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them</p> <p>dumping, burning or storing any materials within 30m of the river/stream including the land spreading of used pesticides (e.g. sheep dip).</p> <p>alteration of the banks, channel, bed or flow of the river or stream/harvesting or burning of reed or willow./causing siltation</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>culture of crayfish</p> <p>construction or operation of an aquaculture facility.</p> <p>Fishing for eels or salmon</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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 8.5

VERTIGO SPECIES, SHINING SICKLE MOSS

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.

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

HABITAT TYPE 8.5

VERTIGO SPECIES, SHINING SICKLE MOSS

Section A	Section B
<p>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</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans) within 50m of the lake, pond or canal</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock within 50m of the lake, pond or canal</p> <p>adding lime within 50m of the lake, pond or canal</p> <p>adding fertiliser of any sort within 50m of the lake, pond or canal</p> <p>extracting water for irrigation or other purposes</p> <p>operation of boat angling or shore angling business</p> <p>restocking with fish.</p> <p>reclamation, infilling, ploughing or land drainage within 50m of the lake, pond or canal</p> <p>reseeding, planting of trees or any other species within 50m of the lake, pond or canal</p> <p>removal of trees or any aquatic vegetation within 50m of the river/stream.</p> <p>use of any pesticide or herbicide in the lake, pond or canal or within 50m of the lake, pond or canal</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them.</p> <p>dumping, burning or storing any materials within 50m of the lake, pond or canal pond or canal including the land spreading of used pesticides (e.g. sheep dip).</p> <p>alteration of the banks, channel, bed or flow of the lake, pond or canal or of watercourses running into or out of it</p> <p>harvesting or burning of reed or willow.</p> <p>causing siltation</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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 8.8

MARSH SAXIFRAGE

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.

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

HABITAT TYPE 8.8

MARSH SAXIFRAGE

<u>Section A</u>	<u>Section B</u>
<p>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</p> <p>grazing of livestock above a sustainable density or type of stock (as defined in approved farm plans)</p> <p>introduction of stock to formerly ungrazed areas</p> <p>adding lime/adding fertiliser of any sort</p> <p>creation of new tracks or paths</p> <p>burning of vegetation</p> <p>reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>rock removal</p> <p>cutting turf except from existing banks;</p> <p>no cutting from intact (uncut) areas</p> <p>commercial peat moss or turf extraction</p> <p>use of any pesticide or herbicide, including sheep dip</p> <p>dumping, burning or storing any materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. pony trekking)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p>

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.

APPENDIX VII: 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 enter that part of the farm into the scheme. 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 and Food.

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 to 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 VIII: FARMING CONDITIONS UNDER REPS

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

General Provisions

The conditions set out in this document are supplementary to the agri-environmental specifications. Planners may take a case to the Department of Agriculture and Food (DAF), which in consultation with the National Parks and Wildlife (NPWS) of the Department of Environment, Heritage and Local Government may vary them in individual cases. All REPS plans in respect of Natural Heritage Areas (NHAs) must have an environmental input and REPS plans must be approved and signed by the Planning Agency's Environmentalist.

Both Departments shall exercise their respective statutory and administrative responsibilities in close co-operation.

Detailed 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 should 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 must be followed. The following parameters apply.

- a) Where there is no damage, the current stocking levels are acceptable

- b) 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
- c) 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
- d) 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 IX: NATIONAL PARKS AND WILDLIFE SERVICE MANAGEMENT STAFF

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Regional Manager

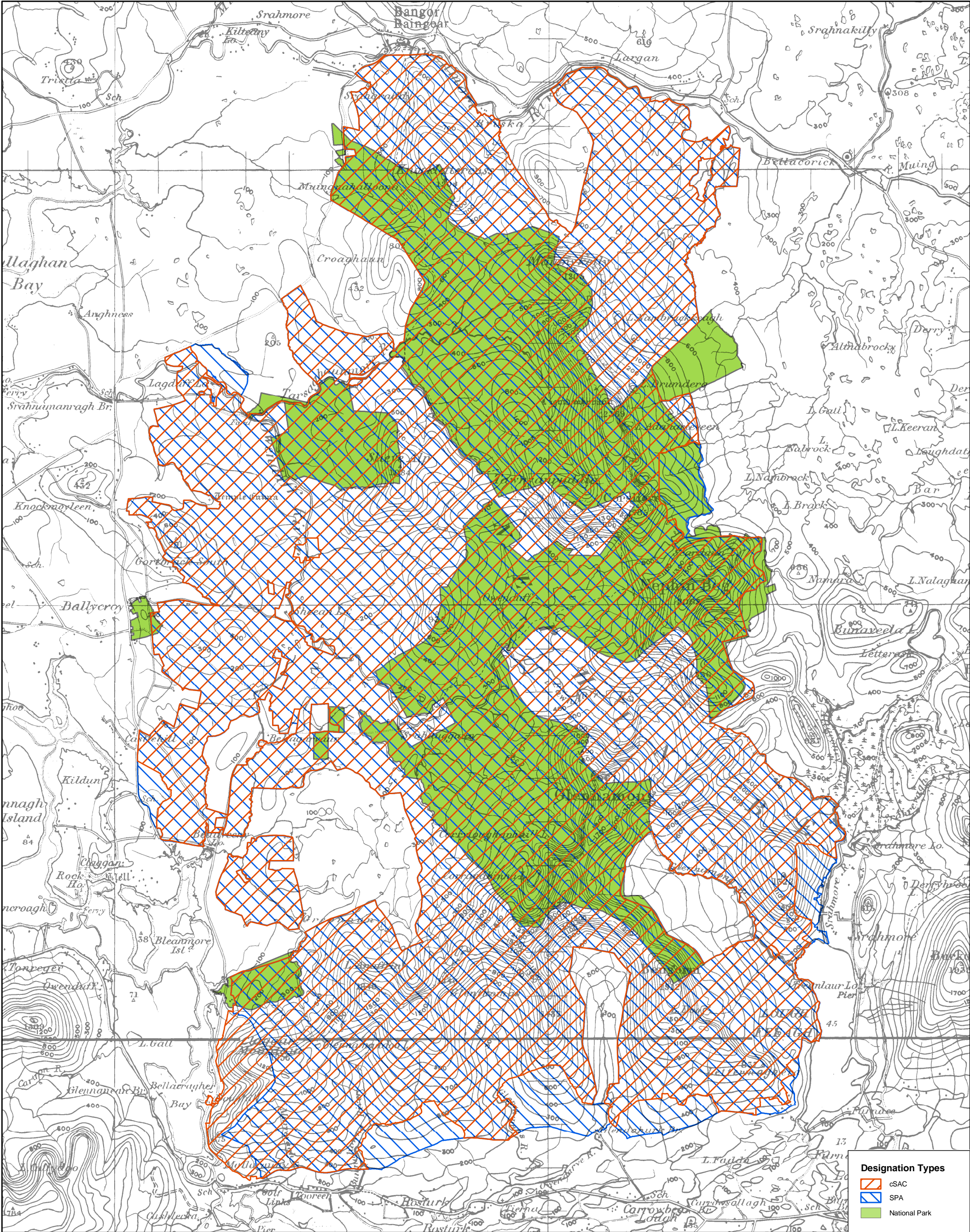
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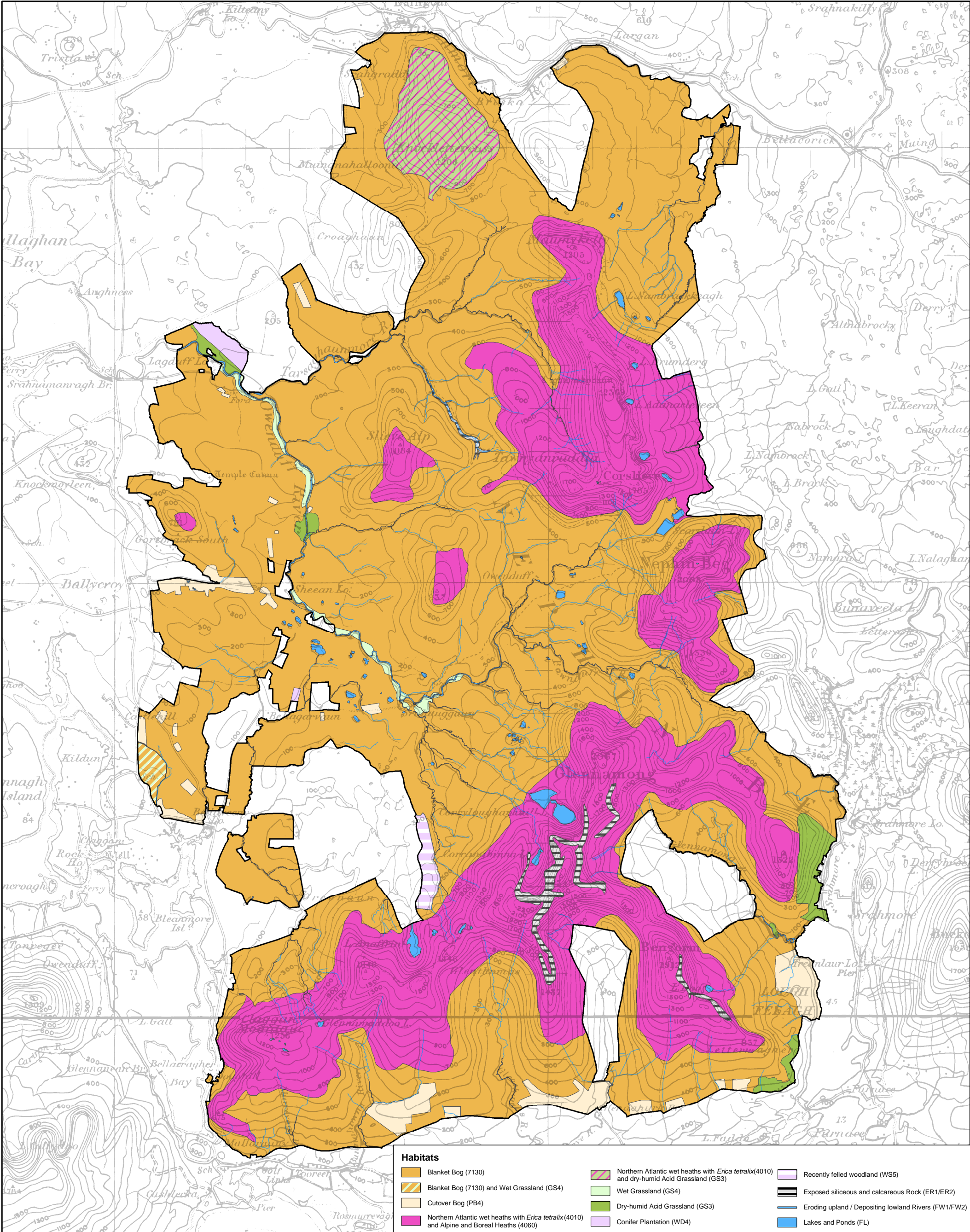
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Fax (01) 8883272.
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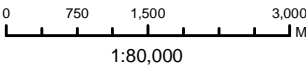




CEANTAR SPEISIALTA CAOMHNATHE / LIMISTEIR CHAOMHNATHE SPEISIALTA
CANDIDATE SPECIAL AREA OF CONSERVATION / SPECIAL PROTECTION AREA

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

OWENDUFF/NEPHIN COMPLEX



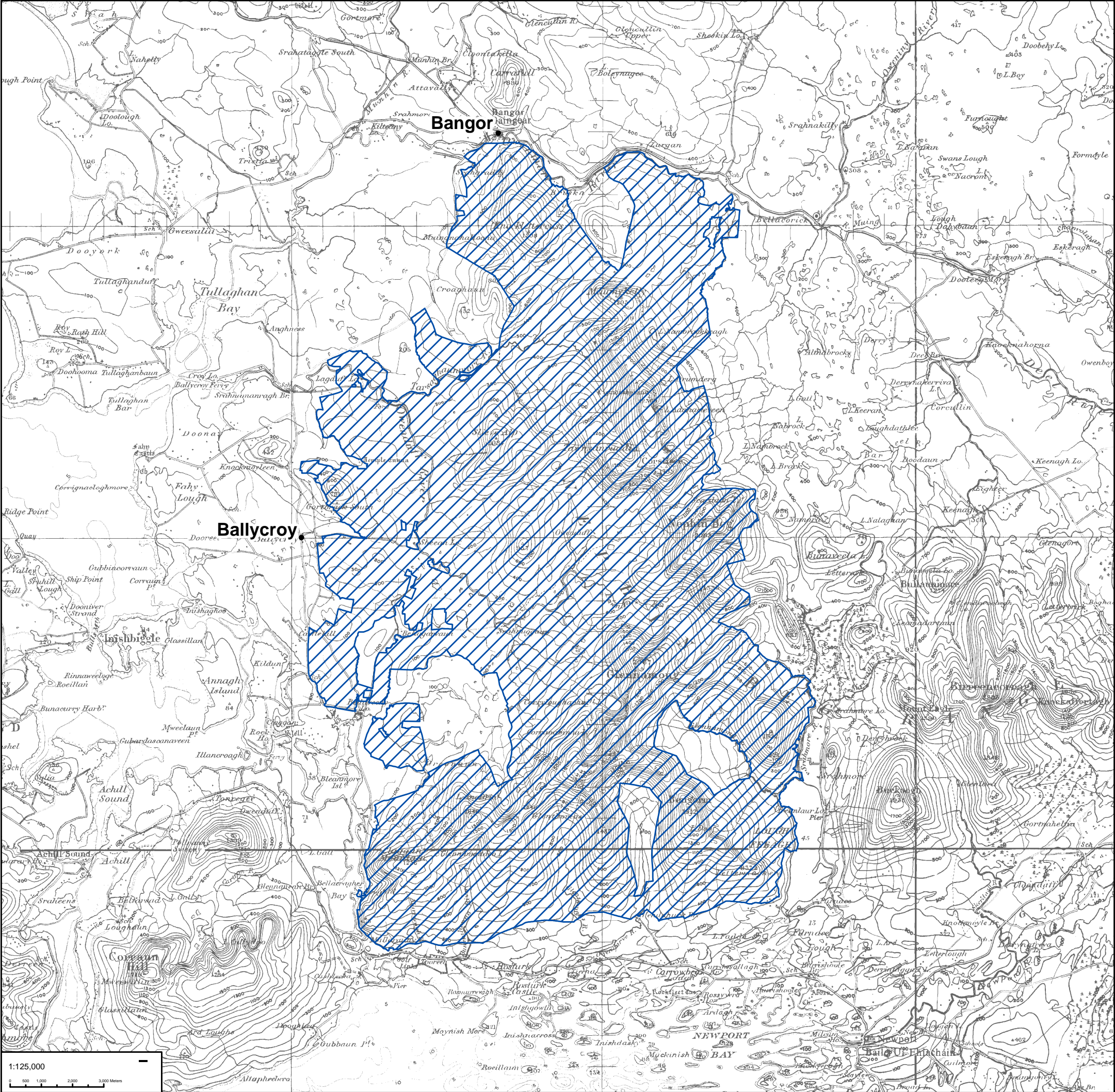
MAP 4:
INDICATIVE HABITAT MAP

Map to be read in conjunction with conservation plan

SITE CODE
cSAC 534 / SPA 4098

cSAC Version 1.04
SPA Version 1.03

Date: May '05



CEANTAR SPEISIALTA CAOMHNATHE /
LIMISTEIR CHAOMHNATHE SPEISIALTA

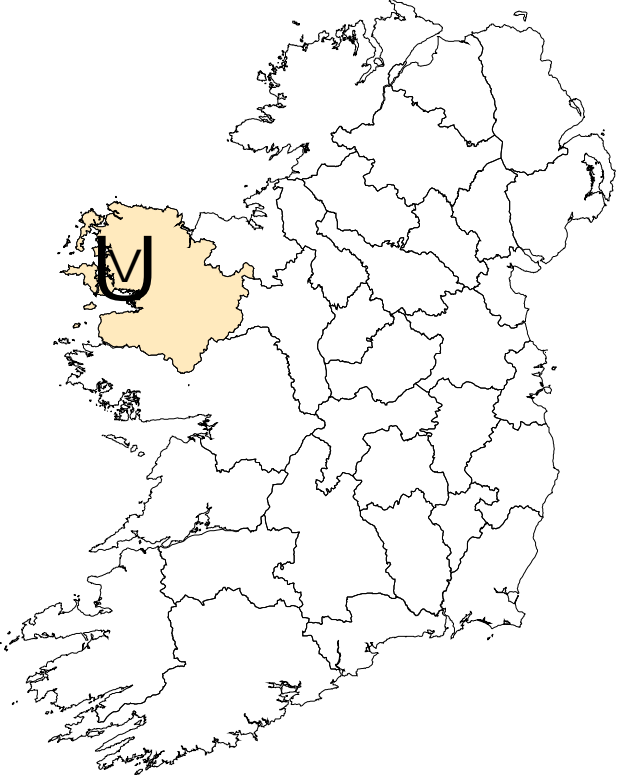
CANDIDATE SPECIAL AREA OF CONSERVATION /
SPECIAL PROTECTION AREA

OWENDUFF/NEPHIN COMPLEX

Site Code: cSAC 534 / SPA 4098
cSAC: Version 1.04, SPA: Version 1.03
Date: May 2005

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Féadfar athbheithníthe a déanamh ar theorainneacha na gceantar comharthaíthe.
Macasamhail d'ábhar na Suirbhéarachta Ordois le chead ón Rialtas (Ceadúnas Uimh. 5953)

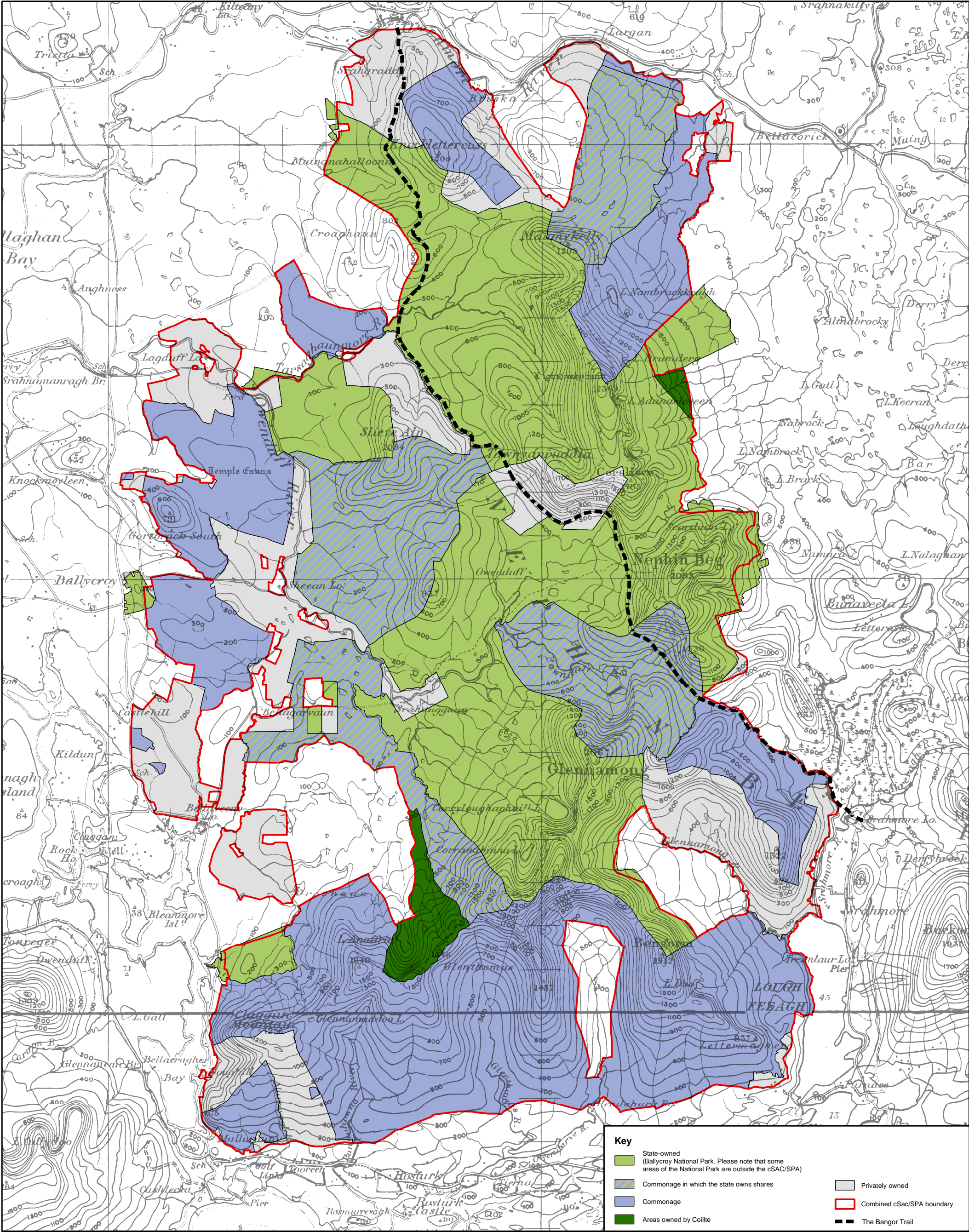


Map 1
LOCATION: OWENDUFF/NEPHIN COMPLEX cSAC 534 / SPA 4098



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

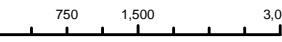
Co-financed through 'Life' EU funding
Chomh-mhaoinithe trí chiste 'LIFE' an AE



CEANTAR SPEISIALTA CAOMHNATHE / LIMISTEIR CHAOMHNATHE SPEISIALTA
CANDIDATE SPECIAL AREA OF CONSERVATION / SPECIAL PROTECTION AREA

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

OWENDUFF/NEPHIN COMPLEX



1: 80,000

MAP 3:
OWNERSHIP

Map to be read in conjunction with conservation plan

SITE CODE
cSAC 534 / SPA 4098

cSAC Version 1.04
SPA Version 1.03

Date: January '06

