



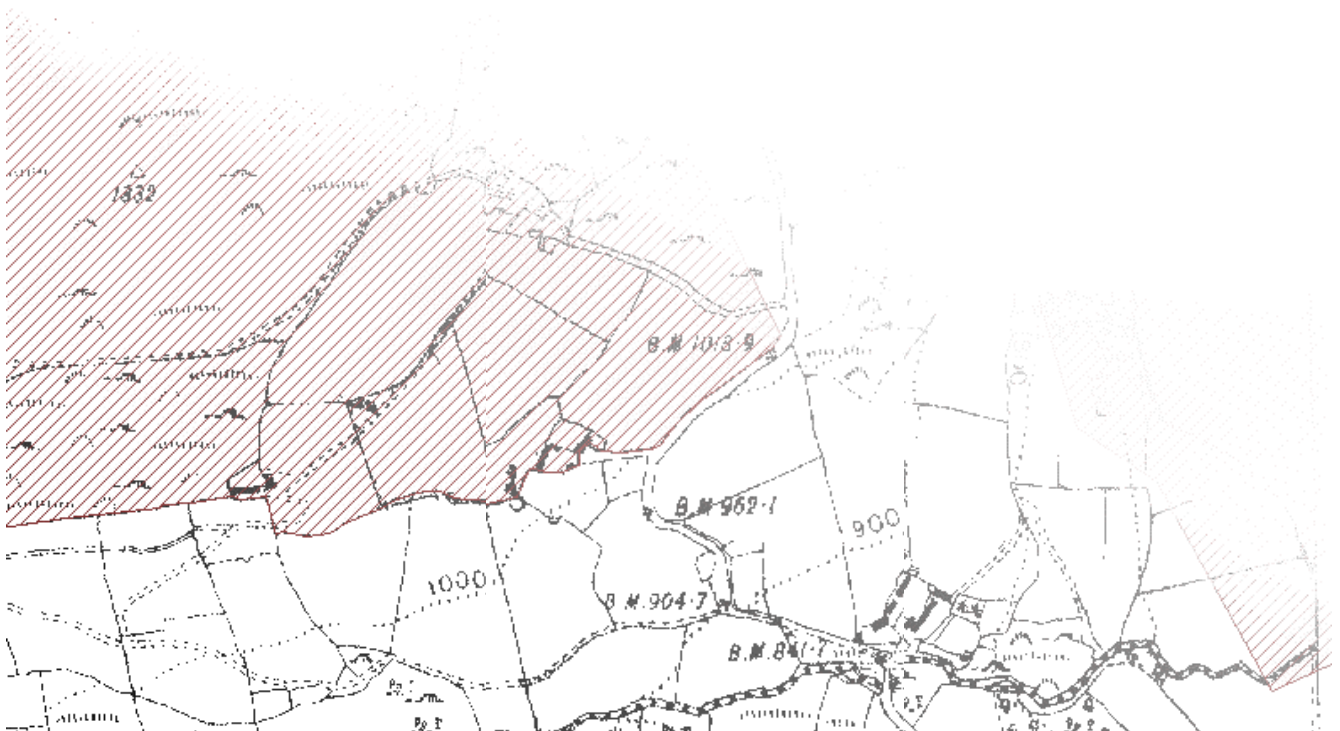
National Parks and Wildlife Service Conservation Plan for 2006-2011



Knockalongy and Knockachree Cliffs cSAC

Site Code 1669

Co. Sligo



SUMMARY

Introduction

Knockalongy and Knockachree Cliffs cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive due to the presence on the site of Killarney Fern, a rare and protected plant which is listed in Annex II of that Directive. The areas of outcropping rock and inland cliffs that are encompassed by this site in the Ox Mountains represent one of the few suitable locations for alpine plants in this part of county Sligo. Yellow Mountain Saxifrage and Bird Cherry, both Red Data Book species, also occur here. The site is also the nesting location for Peregrine Falcon, a species listed in the EU Birds Directive.

Description of Knockalongy and Knockachree Cliffs cSAC

This site comprises two areas about 1 km apart on the north-eastern slopes of the Ox Mountains. It is primarily upland with exposed siliceous rocks and cliffs of metamorphic rock, with a corrie lake located at the base in each case – Lough Aghree and Lough Minnaun respectively. A range of habitats occur, often in mosaic, on the upper elevations. These include wet heath, wet grassland, eroding/upland rivers and dense bracken. The acid oligotrophic lakes are surrounded by blanket bog. It is grazed by sheep.

Main conservation objectives

- To maintain the Annex II species for which the cSAC has been selected at favourable conservation status – Killarney Fern
- To maintain the extent, species-richness and biodiversity of the entire site.
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Main management issues

- Bracken invasion
- Forestry
- Grazing
- Lack of information

Main strategies to achieve objectives

- Scientific monitoring
- Site surveillance
- Conduct surveys
- Control grazing
- Manage exotic species
- Control bracken
- Manage commercial forestry
- Liaise with interested parties

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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 Habitats Directive 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, within three months of the designation notification.

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

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

Reason for Designation of Knockalongy and Knockachree Cliffs cSAC

| SPECIES LISTED IN ANNEX II OF THE EU HABITATS DIRECTIVE | CONSERVATION VALUE |
|--|---|
| <ul style="list-style-type: none"> Killarney Fern (<i>Trichomanes speciosum</i>) | <p>The slopes and cliffs above Lough Aghree provide abundant good quality habitat for this rare and protected species. A colony was recorded here as recently as 2005. It has a limited distribution in Ireland. This is its only known location in county Sligo.</p> |



Killarney Fern (*Trichomanes speciosum*). (Photo N. Kingston).

Implications of Site Designation for Landowners and other Site Users

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

In cases where users with a legal entitlement are required to change practices or restrict activities to protect the wildlife interest of the site, compensation will be payable based on actual loss of income. See Appendix V for further details

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 IV).

SITE DESCRIPTION

Location Including Site Boundaries

This site is located west of Ladies Brae on the north-eastern slopes of the Ox Mountains in county Sligo. It comprises two separate plots about 1 km apart in a north-south alignment. Each plot incorporates a lake, situated at the base of the cliffs and partly surrounded by them in both instances. These are Lough Aghree and Lough Minnaun respectively. (See Map 1).

Grid Ref.: G 52 28
Latitude: N 54°12'07"
Longitude: W 8°44'04"
Area: 226 ha
Altitude Range: 100 m to 420 m
Townlands: Carrowculleen, Tawnatrohaun

Site Boundaries

With regard to the Knockachree plot, all of the western boundary and that part of the northern boundary east of Lough Aghree are demarcated on the ground by streams. Most of the remainder on the northern side is represented by a line running parallel to the lake shore at a distance of 50 meters from it. The eastern boundary is represented by the townland boundary, which on the ground is the edge of an adjacent coniferous forestry plantation. The remaining boundary along the summit of this plot and the western summit boundary of the following plot are not demarcated on the ground.

With regard to the Knockalongy plot the southern boundary and that running along the north/north-eastern sides are represented on the ground by streams flowing into Lough Minnaun. The remainder of the boundary around the lake is represented by a line running parallel to it at a distance of 50 meters.

Site Infrastructure

The site is devoid of any infrastructural development.

Legal Status

Ownership

The Knockachree plot is in multiple private ownership. All of the Knockalongy plot is in the ownership of Coillte Teoranta. (see Map 2).

Designations of the Site

| | | |
|---|---------------------|---|
| candidate Special Area of Conservation | Sitecode IE 0001669 | Published on 1 st July 1999. |
| proposed Natural Heritage Area | Sitecode 1669 | Published in 1995 |

Past Status and Designation of the Site

This Knockalongy and Knockachree site was formerly listed as an Area of Scientific Interest (ASI), of regional importance, by An Foras Forbartha in its National Heritage Inventory, Areas of Scientific Interest in Ireland (1981).

Rights Pertaining to the Site

| | |
|----------------|---|
| Hunting | Coillte has leased the hunting rights over its property to the Tubbercurry and District Gun Club. |
|----------------|---|

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 local Conservation Ranger. Regional staff may 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 VII) for further details of NPWS regional staff. |
| Sligo County Council | Sligo County Council is the planning authority for the site. As such they are obliged to ensure appropriate assessment of the implications of developments requiring planning permission that may have an impact, either individually or in combination with other developments on the designated area. |
| Environmental Protection Agency (EPA) | The EPA is an independent state sponsored body with a wide range of statutory duties including monitoring environmental quality and overseeing the performance by local authorities of their statutory environmental protection functions. |

Department of Communications, Marine and Natural Resources (DCMNR)

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

Coillte Teoranta

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

Department of Agriculture and Food (DAF)

DAF is the government department responsible for the development and regulation of agriculture, forestry and the food industry, including the administration of schemes such as the Rural Environment Protection Scheme (REPS).

Local Authority Policy in relation to the Site

Under Section 7.2 Natural Environment of Sligo County Development Plan 2005-2011 it is stated that *“it is an objective to ensure, where possible, that developments or activities do not impact adversely upon wildlife and its habitats. A sustainable approach requires that the natural heritage resource, comprising natural habitats and species within the Plan area, should be conserved and protected for the benefit of future generations. In general, if uncertainty exists regarding the potential impact of a proposed development, full account must be taken of the precautionary principle, and the proposed development will be resisted unless or until its effects are more clearly understood”*.

Under Section 7.2.1 the natural environment objectives are further stated to be

- A. *Seek the conservation and wise management of areas of natural environmental value.*
- B. *Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under the EU Habitats Directive, EU Birds Directive, the Wildlife Act and the Flora Protection Order.*

The Plan recognises that the process of designation of sites by the DoEHLG is ongoing, with new sites being added and/or upgraded and boundaries being adjusted as better information becomes available. It incorporates into Appendix C of the Plan a list and maps of pNHAs, cSACs and SPAs compiled in May 2004. This site is recorded therein as a cSAC.

Under Section 7.2.2.4 the objectives for designated nature conservation sites are stated to be

- A. *Maintain, and where possible enhance, the conservation value of all pNHAs, cSACs and SPAs, as identified by the Minister for the Environment, Heritage and Local Government, as well as any other sites that may be proposed for designation during the lifetime of this Plan.*
- B. *Discourage development that would destroy or damage any sites of international or national importance, designated for their wildlife/habitat significance, including pNHAs, cSACs and SPAs.*

Section 7.5 of the Plan classifies the County according to its visual sensitivity and ability to absorb new development. Four classifications are made – Normal Rural Landscapes, Sensitive Rural Landscapes, Visually Vulnerable Areas and Scenic Routes. This site and its hinterland is classified as a Sensitive Rural Landscape. Such landscapes are described as areas that tend to be open in character, with intrinsic scenic quality and a low capacity to absorb new development.

Among the landscape assessment and protection objectives outlined in Section 7.5.1 of the Plan is one to *“strictly control new development in designated Sensitive Rural Landscapes, while considering exceptions that can demonstrate a clear need to locate in the area concerned”*. It is further stated that it is the objective to

“Ensure that any new development in designated Sensitive Rural Landscapes:

- does not impinge in any significant way on the character, integrity and distinctiveness of the area;*
- does not detract from the scenic value of the area;*
- meets high standards of siting and design;*
- satisfies all other criteria with regard to, inter alia, servicing, public safety and prevention of pollution”.*

Physical Features

Climate

This site, due to its location at the north-western end of the country and close to the western extremity of Europe, experiences a temperate oceanic climate influenced by the Atlantic Ocean. It enjoys generally mild humid conditions without huge fluctuations in temperatures. Precipitation is relatively high with a mean monthly rainfall of 114 mm. Mean temperature is 8.9 °C and mean monthly wind speed is 8.8 knots. These statistics are based on meteorological data for the nearest Synoptic Station at Claremorris, County Mayo, located approximately 65 km south of the site. More detailed meteorological data for this station is provided in Appendix III.

Geology & Geomorphology

This area is underlain by metamorphic rocks belonging to the Dalradian Supergroup. These rocks were originally laid down (between 810 and 600 million years ago) in seas, forming siltstones and mudstones. These were then subject to pressure and heat, leading to the formation of pelitic schists (well foliated metamorphic rocks). Some volcanic elements, such as tuff (rock formed from volcanic ash) may also be present.

Soils & Soil Processes

The area within this site and in the hinterland beyond is upland. Peat, especially blanket bog, is dominant at lower altitudes and extends outwards from the lakes into the wider landscape. Shallower peat or heath is more characteristic on the slopes and upper reaches of the site. Damage to the peat is occurring in places due to grazing by sheep, and accumulated peat silt is evident around the lake margins.

Hydrology & Water Quality

The corrie lakes owe their origin to glacial action of the last ice age. These are fed by a series of streams flowing from, and draining, the uplands. In the case of Lough Aghree these feeder streams and the stream bounding the site on its western side discharge into Ardnaglass River, and ultimately into Sligo Bay to the north. Lough Minnaun discharges into the Owenboy River which, after initially flowing southwards, turns north-eastward to enter the sea in Ballysadare Bay. Some streams, particularly that flowing through the steep gully into Lough Aghree from the south-west, are characterised by waterfalls. Flushes occur at various locations throughout the site and it is quite wet in places due to the amount of water seeping down the slopes.

Biological Features

Habitats and Vegetation

Note: Throughout the conservation plan, habitats are named and described according to the classification system of ‘A Guide to Habitats in Ireland’ (Fossitt, 2000).

The following table lists the habitats within the site. The Indicative Habitat map for the site is presented in Map No 3. The percentage area presented for each habitat type is based on the approximate geographic area of each habitat, as shown in Map No 3.

Habitats Found within Knockalongy and Knockachree Cliffs cSAC

| HABITAT CATEGORY | % AREA |
|--|----------------------------|
| Exposed siliceous rock (ER1)/Exposed calcareous rock (ER2) | In mosaic with heath – 53% |
| Wet heath (HH3) | In mosaic – 23% |
| Acid oligotrophic lakes (FL2) | 11% |
| Upland blanket bog (PB2) | 5% |
| Wet grassland (GS4) | 3% |
| Eroding/upland rivers (FW1) | 1% |
| Dense bracken (HD1) | 2% |
| Conifer plantation (WD4) | 2% |

Exposed siliceous rock (ER1)/Exposed calcareous rock (ER2) (53% of total site area)

Exposed rock occurs on the elevated ground above and partly surrounding both Lough Aghree and Lough Minnaun. It is primarily steeply sloping, rugged ground with considerable areas of exposed rock, rather than sheer cliff faces. However, the deep gully or ravine on the western side of Lough Aghree, through which one of its feeder streams flows, contains steep rock faces. Although siliceous rock occurs over much of the upper areas behind the lakes, it is in mosaic with the other habitats, particularly calcareous rocky slopes and wet heath which covers it in parts (see below), making clear demarcation between them difficult. The rock behind Lough Minnaun is not as steep as that behind Lough Aghree.

The rocky ledges throughout the site, particularly around Lough Achree support interesting communities of flora. Typical species include Bog Pimpernel (*Anagallis tenella*), Ling (*Calluna vulgaris*), Bell Heather (*Erica cinerea*), St John's Wort (*Hypericum* sp.), Opposite-leaved Golden Saxifrage (*Chrysopenium oppositifolium*), impressive clumps of Yellow Mountain Saxifrage (*Saxifraga azoides*) and Great woodrush (*Luzula sylvatica*). Base-rich areas support Stone Bramble (*Rubus saxatilis*), Golden rod (*Solidago virgaurea*) the moss *Neckera crispa* and a number of fern species including Beech Fern (*Phegopteris connectilis*), Wilson's Filmy-fern (*Hymenophyllum wilsonii*), Hard Fern (*Blechnum spicant*) and Polypody (*Polypodium* sp.).



View across Lough Aghree to steep rocky slopes behind. Note ravine colonised by tree species in centre background.
(photo: Martin Brennan)

Exposed siliceous rock (ER1)/Exposed calcareous rock (ER2) continued

Woody species have colonised some of the rock faces, particularly in the previously mentioned ravine. These include Downy Birch (*Betula pubescens*), Rowan (*Sorbus aucuparia*), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*), Eared Willow (*Salix aurita*) and Ivy (*Hedera helix*). This area also holds many woodland plant species including Wood Sorrel (*Oxalis acetosella*), Wood Anemone (*Anemone nemorosa*), Violet (*Viola riviniana*), Hard Shield Fern (*Polystichum aculeatum*) and the mosses *Breutelia chrysocoma*, *Neckera crispa*, *Conocephalum conicum*, *Pleurozia purpureum* and *Preissia quadrata*.

Wet heaths (HH3) (23% of total site area)

Much of the site associated with the exposed rocky areas, where thin peat cover occurs, and extends outwards from it, is wet heath. Typical heath vegetation communities occur. Ling and Purple Moor-grass (*Molinia caerulea*) are dominant. Other species include Bell Heather, Bog Pimpernel, Tormentil (*Potentilla erecta*) and the moss *Sphagnum capillifolium*. Occasional Bog Myrtle (*Myrica gale*) and Cotton-grass (*Eriophorum* sp.) occur. Lesser Clubmoss (*Selaginella selaginoides*) and Eared Willow are also present, and Beech Fern is reported to occur here.

Acid oligotrophic lakes (FL2) (11% of total site area)

Both lakes are similar in nature. They support few plant species. Water Lobelia (*Lobelia dortmanna*), Alternate-flowered Water-milfoil (*Myriophyllum alterniflorum*), Broad-leaved Pondweed (*Potamogeton natans*), and Bog Pondweed (*Potamogeton polygonifolius*) are present on Lough Aghree. Around its margins vegetation includes Shoreweed (*Littorella uniflora*), Lesser Spearwort (*Ranunculus flammula*), Bogbean (*Menyanthes trifoliata*), Water Mint (*Mentha aquatica*), Marsh Pennywort, (*Hydrocotyle vulgaris*), Bulbous Rush (*Juncus bulbosus*), Sharp-flowered Rush (*J. acutiflorus*), Jointed Rush (*J. articulatus*), Common Sedge (*Carex nigra*), Common Spike-rush (*Eleocharis palustris*) and Many-stalked Spike-rush (*E. multicaulis*). Bottle Sedge (*Carex rostrata*) occurs around the margins of both lakes. Horsetail (*Equisetum* sp) and Soft Rush (*Juncus effusus*) occur around Lough Minnaun. Lough Aghree is characterized by a mainly sandy base with a rocky shoreline in parts. Eroded peat has accumulated along the shorelines of both lakes.

Upland blanket bog (PB2) (5% of total site area)

The flatter land adjacent to and encircling the lakes on the open sides is blanket bog. It is quite wet and supports communities of plants typical of this habitat. Ling and purple moor-grass are dominant. Other species include Deergrass (*Trichophorum cespitosum*), Common Cotton-grass (*Eriophorum angustifolium*), and bog mosses (*Sphagnum capillifolium* and *S. papillosum*). Bell Heather also occurs and, particularly on the Lough Minnaun plot, Cross-leaved Heath (*Erica tetralix*) and hummocks of the moss *Racomitrium lanuginosum* are also present. Vegetation cover is poor in places on both plots, with bare peat exposed due to damage caused by sheep grazing, most particularly around Lough Minnaun. Some flushes occur close to the shore of Lough Aghree. Deergrass, Wavy Hair-grass (*Deschampsia flexuosa*) and Compact Rush (*Juncus conglomeratus*) are abundant here. Jointed Rush, Sharp-flowered Rush and Black Bog-rush (*Schoenus nigricans*) are also present.

Wet grassland (GS4) (3% of total site area)

This upland wet grassland is in mosaic with the wet heath and, like it, occurs between the rocky outcrops. Vegetation is dominated by Mat-grass (*Nardus stricta*). Bent grasses (*Agrostis* spp.) also occur and there is an abundance of mosses throughout.

Eroding/upland rivers (FW1) (1% of total site area)

Numerous fast-flowing streams run down from the uplands through this site. For the most part these flow over exposed rock surfaces. One large stream in particular is characterised by numerous waterfalls, and pools with gravel bottoms, as it flows along its south-west/north-easterly route through a deep gully to Lough Aghree. The vegetation on the steep rock faces here has a woodland character (see above), with ferns also plentiful. Mosses and liverworts are abundant on the rock surfaces, and Yellow Mountain Saxifrage grows on bare stones adjacent to the streams. There is little vegetation in the fast flowing streams. A number of streams, both feeding and discharging from the lakes, flow through the bog at lower elevations. These are slower flowing, and bog vegetation as described above, extends up to the banks.

Dense bracken (HD1) (2% of total site area)

Pockets of dense Bracken (*Pteridium aquilinum*) occur on parts on the lower slopes of both plots. It is however most extensive at the north-western end of the Lough Aghree plot.

**Conifer plantation
(WD4) (2% of total
site area)**

A small plot of coniferous forest occurs close to the northern shore of Lough Minnaun. Comprising predominantly Sitka Spruce (*Picea sitchensis*), it has a closed canopy with a poor ground flora.

A small clump of Common Larch (*Larix decidua*) grows close to Lough Aghree at the lower end of the ravine. Sitka spruce grows in a thin band parallel to the lakeshore, on the lower slopes behind Lough Minnaun.

Notable Flora:

Higher Plants

Killarney Fern (*Trichomanes speciosum*) was first recorded at the site in 1929 and a number of times since then. It was most recently recorded above Lough Aghree in May 2005 by Cotton and Dunleavy (Dr Don Cotton, pers. comm., 2006). This species is listed in Annex II of the EU Habitats Directive. It is protected under the Flora Protection Order (1999) and is also listed in the Irish Red Data Book where it is classified as rare. It occurs near waterfalls, on damp rocks, in crevices and beneath overhanging rocks, and this site provides abundant good quality habitat. Occurring in the extreme west of Europe, and considered an Atlantic species, it has a limited distribution in Ireland and this is its only known location in county Sligo.

Yellow Mountain Saxifrage, a montane species, occurs on the rocky slopes above Lough Achree. It is a plant of damp rocky places and is confined in Ireland to mountains of the north-west. It is listed in the Irish Red Data Book, where it is classified as rare.

A further Irish Red Data Book species, Bird Cherry (*Prunus padus*), has been recorded by Lough Aghree. It is listed as not threatened.

Fauna:

Birds

There is little available recorded information on the avian fauna using this site.

A pair of Peregrine Falcon (*Falco peregrinus*) nest here annually. Peregrine Falcon is listed in Annex I of the Bird Directive. It is listed as an amber species in “Birds of conservation concern in Ireland”(BoCCI) (Newton *et al.* 1999). The overall Irish population appears to be at its highest known levels, with an estimated 265 pairs in the Republic and 99 pairs in Northern Ireland (Gibbons *et al.* 1993).

Hen Harrier (*Circus cyaneus*) are known to breed in the adjacent woodland and forage over this site. This species is listed in Annex I of the EU Bird Directive. It is listed also as a red species in “Birds of conservation concern in Ireland” and also in the Irish Red Data Book where it is classified as endangered.

Merlin (*Falco columbarius*) also forage over this site and may breed occasionally in adjacent land. It is listed in Annex I of the EU Bird Directive. It is listed as an amber species on the BoCCI list and also in the Irish Red Data Book where it is classified as rare.

Common Gull (*Larus canus*) frequent both lakes and small numbers of waterfowl are also present.

A flock of Common Crossbill (*Loxia curvirostra*) was recorded in the adjacent woodland in April 2005 and may frequent the woodland on this site.

Mammals

There is little available recorded information on mammals utilising this site.

Otter (*Lutra lutra*), a species listed on Annex II of the Habitats Directive frequent the site.

There is evidence of the presence of Badger (*Meles meles*) around Lough Achree. Badger is listed in the Irish Red Data Book where it is classified as internationally important.

Land Use

Land use on the site

| | |
|--------------------|---|
| Agriculture | Agriculture is the principal activity conducted on this site. This takes the form of grazing by sheep over the entire area. |
| Forestry | A small plot of commercial, coniferous forest occurs close to the northern shore of Lough Minnaun. |
| Hunting | Coillte has leased the hunting rights, over its property to Tubbercurry and District Gun Club. |

Land use adjacent to the site

| | |
|--------------------|--|
| Agriculture | As this site forms part of a larger area of unenclosed upland the predominant use beyond its boundaries is a continuation of that within the site, namely agriculture in the form of grazing by sheep. |
| Forestry | Commercial forestry plantations occur on lands close to this site. The predominant species is Sitka Spruce, with Lodgepole Pine (<i>Pinus contorta</i>). In the case of Lough Minnaun one such plantation encroaches onto the site at the north-eastern end, close to the lake. A similar plot extends outwards from the lake at the southern side. Considerable areas planted with coniferous trees also occur close to Lough Aghree, and the eastern boundary of this plot is demarcated by one such plantation which extends into the uplands above the lake. |
| Turbary | Very limited manual turf cutting occurs on a number of banks at occasional locations in the hinterland of this site. |
| Hunting | Coillte has leased the hunting rights, over its property to Tubbercurry and District Gun Club. |

Past human use

There is little evidence of past human intervention into or alteration of the landscape at this location. It appears to have been allowed to develop naturally into the habitats which it now constitutes, with traditional extensive farming in the form of sheep grazing the main influence on its character. More recent intervention in the form of forestry has a greater impact.

Recorded Monuments and Other Features

There are no monuments recorded as occurring within this site.

CONSERVATION VALUE OF KNOCKALONGY AND KNOCKACHREE CLIFFS cSAC

This site is of conservation significance due to the montane plant communities which it supports and to the presence of a number of protected plant species, most particularly Killarney Fern. This is a rare species, listed in the EU Habitats Directive and in the Irish Red Data Book. It is protected under the Flora Protection Order (1999). The areas of exposed rock within the site comprise one of the few suitable locations for alpine plants in this part of County Sligo. Such species include Yellow Mountain Saxifrage, Beech Fern, Cowberry and Wilson's Filmy fern. Other notable species recorded include Stone Bramble and Bird Cherry (also a Red Data Book species).

The combination of other habitats including the corrie lakes at the base of the exposed rock, wet heath, blanket bog, eroding upland rivers and wet grassland add to the interest, diversity and ecological value of the site, which is in a natural state with little impact of human activity.

In addition the site is the nesting location for a pair of Peregrine Falcon, a species listed in Annex I of the EU Bird Directive.

MANAGEMENT FRAMEWORK

Conservation Objectives

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

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

- its natural range, and area it covers within that range, is stable or increasing, and
- the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable as defined below.

The favourable conservation status of a species is achieved when:

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

- | | |
|---------------------|---|
| Objective 1: | To maintain the Annex II species for which the cSAC has been selected at favourable conservation status - Killarney fern. |
| Objective 2: | To maintain the extent, species-richness and biodiversity of the entire site. |
| Objective 3: | To establish effective liaison and co-operation with landowners, legal users and relevant authorities. |

Management Issues

The following have been identified as management issues for this site. They are listed in alphabetical order:

- **Bracken invasion**
- **Forestry**
- **Grazing**
- **Lack of information**

Bracken invasion

Invasion by bracken, particularly above and to the west of Lough Aghree is a feature of the natural development of this site. Left unchecked it will continue to expand its range at the expense of more sensitive and less dominant species.

Forestry

A small plot of commercial coniferous forest occurs within this site, and a considerable area of land in its immediate hinterland is also covered by similar plantations. Some forestry blocks occur above the lakes and along the streams feeding them. The presence of such forests in close proximity to the site have potential to negatively impact upon it. Potential threats include pollution and acidification of the watercourses and lakes.

A small clump of European Larch occurs close to the lake in the lower reaches of the ravine through which flows one of the feeders of Lough Aghree. A narrow band of Sitka Spruce occurs along the heath behind Lough Aghree.

Grazing

There is evidence of localised damage to the site, most particularly to the blanket bog at lower reaches close to the lakes, arising from sheep grazing. This is characterised by bare eroding peat with potential for siltation of streams. Eroded peat has accumulated and has been deposited along the shores of both lakes.

Research

There is little available information on the fauna occupying this site, and some botanical records are in excess of ten years old. A survey/monitoring of Peregrine Falcon is ongoing and should continue. A national survey of Hen Harrier, incorporating this site, has commenced and will provide details on its use by them.

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
- enforcement of Regulations under the Habitats/Birds Directives and the Wildlife Acts.
- enforcement of other relevant legislation

Establish a monitoring regime

The monitoring regime for the site will comprise:

| | |
|------------------------------|---|
| Scientific monitoring | <p>Monitoring of the conservation status of the Killarney fern and of the site 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.</p> <p>Protocols for monitoring Knockalongy and Knockachree Cliffs cSAC will be developed, in consultation with other agencies where appropriate, to determine if the site is being maintained at favourable conservation status.</p> <p>This site will be incorporated into national surveys of species such as Hen Harrier and Peregrine Falcon.</p> |
| Site surveillance | <p>Regular inspection of the site by the NPWS staff, with special attention to the grazing regime and quality of vegetation, particularly on the blanket bog, will identify any major changes, damaging operations, or threats should they arise.</p> |

Enforce notifiable actions

Certain activities may be restricted in SACs. Notifiable Actions for particular habitats and species are listed in Appendix IV of this plan. Consent from the Minister may be required before these actions may be carried out within the designated area For example grazing by livestock above a sustainable density.

Specific Strategies

Objective 1.

To maintain the Annex II species for which the cSAC has been selected at favourable conservation status – Killarney fern.

Strategies:

- 1.1 Non-intervention** The current status of Killarney fern can best be maintained by means of non-intervention. Other strategies aimed at management of the habitats will contribute to maintenance of the favourable conditions on the site as a whole, particularly 2.1 and 2.3 below.
- 1.2 Conduct surveys** NPWS will conduct regular surveys to monitor and record the populations of Killarney fern as per the general strategies.

Objective 2.

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

Strategies:

- 2.1 Control grazing** NPWS will seek to ensure that suitable grazing levels are established/maintained via REPS and NPWS farm plans.
- 2.2 Manage exotic species** NPWS will agree a programme for the removal of the larch trees located in the ravine close to Lough Agree with the owner. Similarly it will agree a programme for the removal of the Sitka Spruce on the heath behind this lake with its owner.
- 2.3 Control bracken** NPWS will seek to develop a programme for the containment and control of bracken with the land owners.
- 2.4 Manage commercial forestry** NPWS will continue to liaise with Coillte with regard to any proposed thinning, felling or forestry operations in or adjacent to the site.
- 2.5. Carry out surveys** NPWS will, subject to available resources, conduct or commission surveys to establish the populations and status of flora and fauna occupying the site.

Objective 3.

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

Strategies:

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

Zoning

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

See map 4

Zone A: A Natural Zone

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

1A: NON-INTERVENTION AREAS

Acid oligotrophic lakes.

Relevant strategies are 2.5, 3.1, 3.2 and the general strategies.

2A: MAINTENANCE AREAS WITH LIMITED MANAGEMENT INTERVENTION

Exposed siliceous rock, exposed calcareous rock, most of the wet heath, wet grassland, blanket bog and eroding/upland rivers and streams.

Strategies 1.2, 2.1, 2.3, 2.5, 3.1, 3.2 and the general strategies apply to these areas.

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: Wet heath with larch and dense bracken

Strategies 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2 and the general strategies are relevant.

Zone C: Intensive use Zone

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

C1: Commercial conifer plantation

Strategies 2.4, 2.5, 3.1 and the general strategies apply.

Zone D: Impact Zone

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

D1: Conifer plantations adjacent to the site

Strategies 2.4 and 3.1 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 |
|-----------|--------------------------------|---|--|-------------------------|----------------------|-----------------------------|
| General | Implement plan | Liaise with stakeholders and relevant authorities | NPWS | | | |
| General | Enforce legislation | Enforce regulations and legislation | NPWS | | | |
| General | Establish monitoring regime | Scientific monitoring | NPWS | | | |
| 1.1 | Non-intervention | - | - | | | |
| 1.2 | Conduct surveys | Conduct surveys to record and monitor Killarney fern. | NPWS | | | |
| 2.1 | Control grazing | Establish and maintain sustainable stocking levels | NPWS/ landowners | | | |
| 2.2 | Manage exotic species | Agree programme for removal of larch and sitka spruce trees | NPWS/ landowners | | | |
| 2.3 | Control bracken | Agree programme for the control of bracken | NPWS/ landowners | | | |
| 2.4 | Forest management | Notification to NPWS by Coillte of all forest operations | Coillte/NPWS | | | |
| 2.5 | Carry out surveys | Conduct or commission flora and fauna surveys | NPWS | | | |
| 3.1 & 3.2 | Liaise with interested parties | Ongoing liaison with stakeholders and REPS planners | NPWS/ Stakeholders/ REPS planners | | | |

APPENDIX I:

GLOSSARY

ABIOTIC FACTORS – A collective term for components of the physical environment (i.e. non-living factors such as geology and climate).

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”.

ACIDIC - When applied to soils, refers to soils which are of a low pH i.e. below 7. The term is often used in relation to the plant communities that an acid soil may support e.g. acidic grassland.

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.

ALKALINE - When applied to soils it refers to soils of a calcareous nature and of a high pH, i.e. above 7. The term is often used to describe plant communities associated with such soils e.g. Alkaline Fens.

ALTITUDE - Vertical height above sea level.

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

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

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

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

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

ANNEX III - of the EU Habitats Directive gives the criteria for selecting sites to be designated as SACs.

ANNEX IV - of the EU Habitats Directive lists animal and plant species of Community interest in need of strict protection.

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

ANNUAL PLANT - Plant that completes its lifecycle within a single growing season.

ANTHROPOGENIC - Produced or caused by humans.

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

AQUIFER –A body of permeable rock that is capable of storing significant volumes of water, that is underlain by impermeable material and through which groundwater moves.

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.

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.

BIOTIC – Pertaining to the living components of a habitat or ecosystem

BIOTIC FACTORS – Factors limiting the distribution of a species due to the effects of other organisms present.

BIOTOPE - An environmental region, defined by particular environmental conditions and therefore a characteristic assemblage of organisms.

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.

BoCCI – Birds of Conservation Concern in Ireland. A list of bird species prioritised for conservation in Ireland. The list is divided into Red (high conservation concern), Amber (medium conservation concern) and Green (not threatened).

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

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.

CEMENT - Minerals which bind sediment together to form rock.

CENSUS - An official periodic count of a population.

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 is undivided but 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.

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. Cut-over areas are normally a mosaic of cut areas, face banks, pools, drainage ditches, uncut areas of peat, scrub, grassland etc.

DAF – The Department of Agriculture and Food.

DEHLG - Department of Environment, Heritage and Local Government

DESICCATION - Drying out.

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

DIVERSITY - see biodiversity.

DCMNR – Department of Communications, Marine and Natural Resources

ECOSYSTEM – A functional ecological unit in which the biological, physical and chemical components of the environment interact.

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

ENCROACHMENT - The invasion of a species (usually plants) into areas previously uncolonised. This term is often used when an undesirable species advances at the expense of a desirable species or habitat.

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 – Having high levels of nutrients or primary productivity.

EUTROPHICATION - The nutrient enrichment of aquatic ecosystems usually by phosphates and nitrates. It may occur naturally but can also be the result of human activity (fertiliser run-off/ sewage discharge/ seepage from silage etc.).

EVALUATION - A considered or measured assessment of available information leading to a ranking or valuing.

EXOTIC SPECIES - Are those species which are considered to be non native.

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.

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 is 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.

GLACIOFLUVIAL - Deposits laid down by glacial meltwater.

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.

HERBACEOUS - Seed plants with non-woody green stems.

HERBICIDE - A chemical or biological preparation which kills plants.

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.

IMPERMEABLE - Does not allow the passage of water.

INSECTICIDE - A chemical preparation which kills insects.

INVERTEBRATES - Animals without backbones.

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

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

LITHOLOGY - The physical character of a rock; the rock type.

MACROPHYTES - Rooted and floating aquatic plants

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

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.

MUDSTONE - Fine-grained sedimentary rock, formed from mud.

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 is part of the Department of the Environment, Heritage & Local Government (DEHLG) that manages the Irish State's nature conservation responsibilities under National and European law.

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 HERITAGE AREA – Designated 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.

NGO - Non-Governmental Organisation.

NHA - Natural Heritage Area.

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 SAC 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.

PELITE – Metamorphosed siltstone, mudstone or shale.

PER-ANNUM - Each year.

PERENNIAL PLANT – A plant that normally lives for more than two growing seasons.

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.

POACHING - Damage caused to vegetation and soil by trampling of large grazers..

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

QUALIFYING INTERESTS – The habitat(s) and/or species for which an SAC or SPA is designated.

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.

RARITY - Refers to how common or scarce a site/habitat/species is.

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 Environment 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.

that weeds are a nuisance to human activities - the ruderal is not necessarily a nuisance.

SAC – Special Area 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.

SCHIST – Well foliated metamorphic rock with a schistosity (cleavage resulting from the growth of new platy minerals such as mica).

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.

SPA- Special Protection Area

SPECIAL AREA OF CONSERVATION – Areas designated for nature conservation at a European level. SACs 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).

SPECIAL PROTECTION AREA - Areas which have been designated to ensure the conservation of certain categories of wild bird under the European Birds Directive (Council Directive 79/ 409/ 2nd April 1979).

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).

TERRAIN - A piece of ground which is usually described by its physical character, i.e. rocky terrain.

TERRESTRIAL - A term used to refer to living on land. The opposite of aquatic.

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

TURBARY – Refers to the right to harvest turf.

VERTEBRATES - Animals with backbones.

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: No. 7
- O.S. Discovery (1:50,000) map: No. 25
- O.S. 6 inch (1: 10,560) map: SL18 , SL19

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

Relevant Legislation:

- S.I. No. 39 of 1976: Wildlife Act 1976
- S.I. No. 38 of 2000: Wildlife (Amendment) Act 2000
- S.I. No. 94/1997: European Communities (Natural Habitats) Regulations 1997.
- Local Government (Planning and Development) Acts 1963-2002.

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APPENDIX III: CLIMATE

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

APPENDIX IV: NOTIFIABLE ACTIONS

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

- Notifiable Action 2.1 Upland Grassland, Scree and Inland Cliff
- Notifiable Action 3.1 Blanket Bog
- Notifiable Action 3.2 Heath (including Juniper Scrub)
- Notifiable Action 6.1 Rivers or Streams
- Notifiable Action 6.2 Lakes, Ponds and Canals
- Notifiable Action 7.1 Ditches, Hedges, Cereals and Intensive Grasslands, Walls, Buildings, Waste Ground, Bare Soil, Parkland Grassland, Bracken, Caves or Quarries

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.

| <u>SECTION A</u> | <u>SECTION B</u> |
|---|--|
| <p>Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.</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> |

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 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.

| <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 3.1

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> |
|---|---|
| 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 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 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.

| | |
|---|--|
| <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> |
|---|--|

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.

| <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 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 7.1

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

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, 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 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>Please note that the activities listed in Section B overleaf may, and in most cases do, require a licence or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food).</p> <p>If so, these notifiable actions do not apply.</p> <p>However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.</p> |

HABITAT TYPE 7.1

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

| <u>Section A</u> | <u>Section B</u> |
|---|---|
| <p>THE MINISTER FOR THE ENVIRONMENT, 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>disturbance of bats</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p> | <p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including sports pitches, caravan or camping facilities.</p> <p>developing roads or car parks</p> <p>construction of fences, buildings and embankments</p> <p>afforestation</p> |

In a very limited number of cases it may be necessary for the Minister for The Environment, 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 V: COMPENSATION PROCEDURES

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

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

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

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

Rural Environment Protection Scheme (REPS)

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

NPWS Farm Plan Scheme

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

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

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

APPENDIX VI: FARMING CONDITIONS UNDER REPS

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

General Provisions

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

Detailed Conditions

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

Stocking Density

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

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

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

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

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

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

Supplementary Feeding

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

Use of Fertilisers and Herbicides

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

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

Water Pollution

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

Restricted and Prohibited Practices

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

Complementary Action

(a) Measures to prevent damage by non REPS participants

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

(b) Evaluating and Monitoring

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

(c) Farmer Education /Advice

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

(d) Seminars for Planners

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

(e) Demonstration Farms

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

(f) Quota Rights

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

(g) Scheme Extension

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

(h) Local Co-ordination

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

APPENDIX VII: NATIONAL PARKS AND WILDLIFE SERVICE MANAGEMENT STAFF

Conservation Ranger

Mr Robert Lundy,
Cashel, Tubbercurry,
Co. Sligo.
Tel: 071 9185073
e-mail: robert.lundy@environ.ie

District Conservation Officer

Mr Tim Roderick,
Old Mill, Dromahair
Co. Leitrim.
Tel: 071 9134950
email: troderick@duchas.ie

Deputy Regional Manager

Mr Dave Duggan,
Glenveagh National Park,
Churchill, Letterkenny,
Co. Donegal.
Tel: 074 9137090/91
e-mail: dduggan@duchas.ie

Regional Manager

Mr Joe Gatins,
Main Street,
Laghy,
Co. Donegal.
Tel: 074 9721837
e-mail: joe.gatins@environ.ie

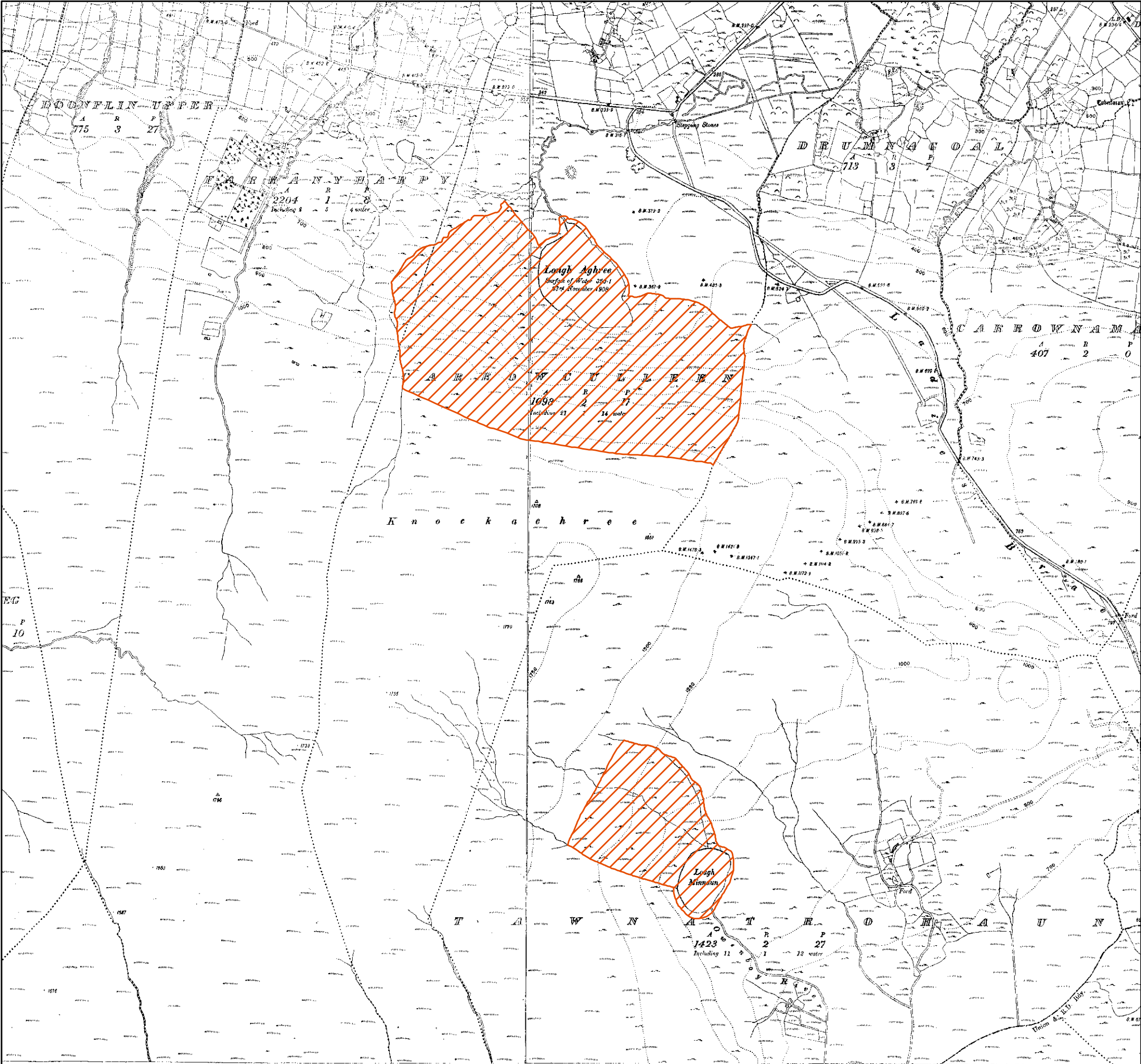
Divisional Manager

Mr Pat Warner,

NPWS, Ballinafad.
Co. Sligo.
Tel: 071 9664501
e-mail: pat.warner@environ.ie

National Parks and Wildlife Service

The Department of the Environment, Heritage
and Local Government
7 Ely Place,
Dublin 2.
Phone Lo Call 1890 202021, (01) 8882000
Fax (01) 8883272
www.npws.ie



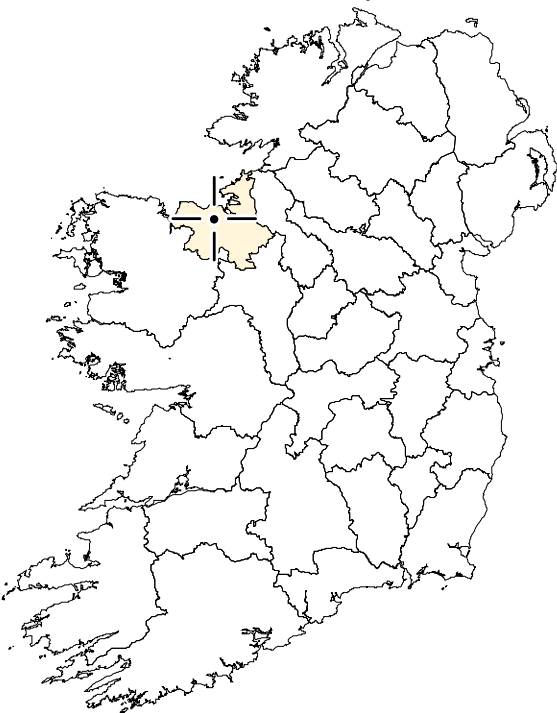
CEANTAR SPEISIALTA CAOMHNATHÉ
CANDIDATE SPECIAL AREA OF CONSERVATION
**KNOCKALONGY
AND KNOCKACHREE CLIFFS 001669**

Boundary Version 1.00
Date: October 2006

O.S. six inch sheets: SL-018, 019

The mapped boundaries are of an indicative and general nature only.
Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta.
Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe.
Macasamhail d'ábhar na Suirbhéaracha Ordois le chead ón Rialtas (Ceadúnas Uimh. 5953)

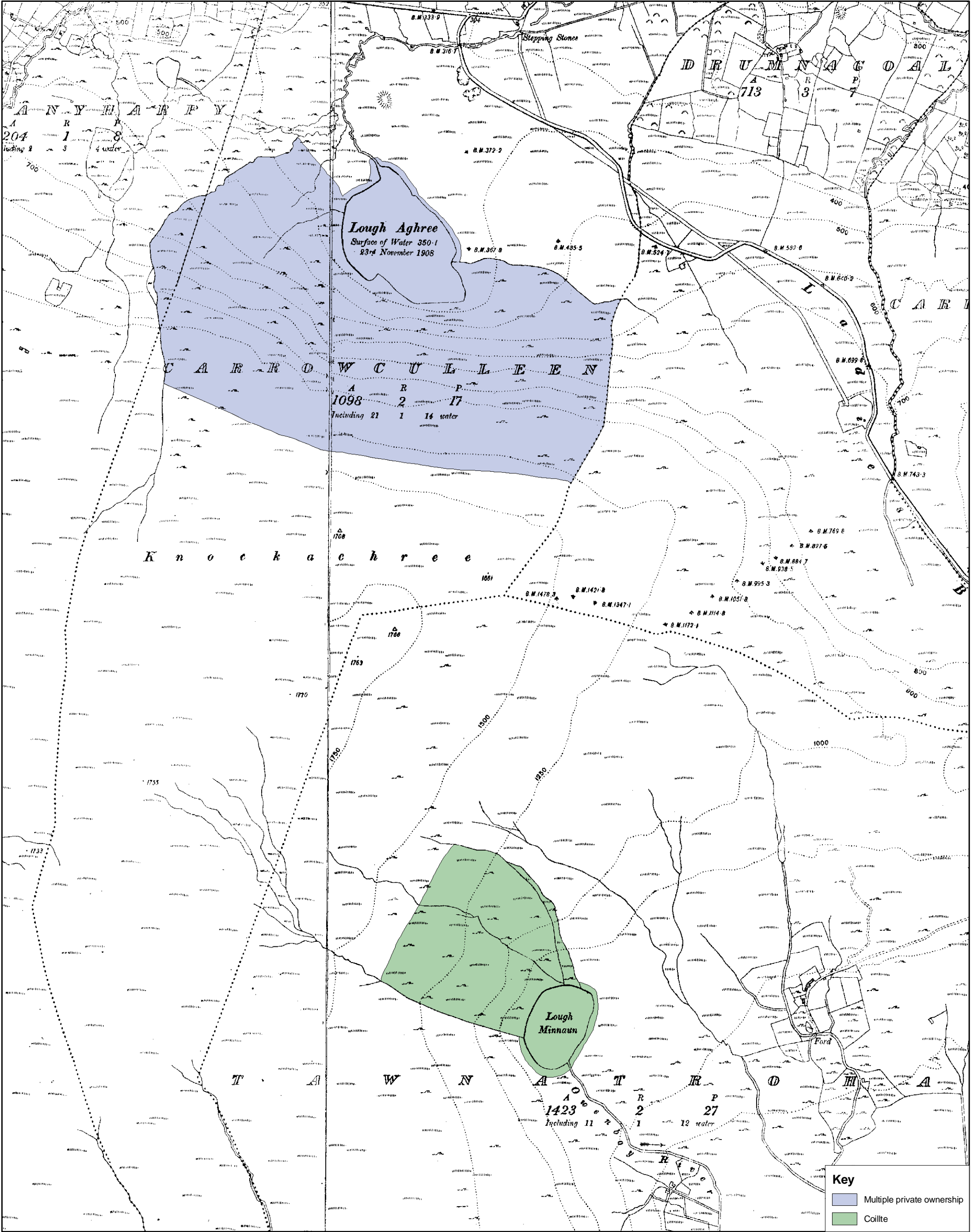


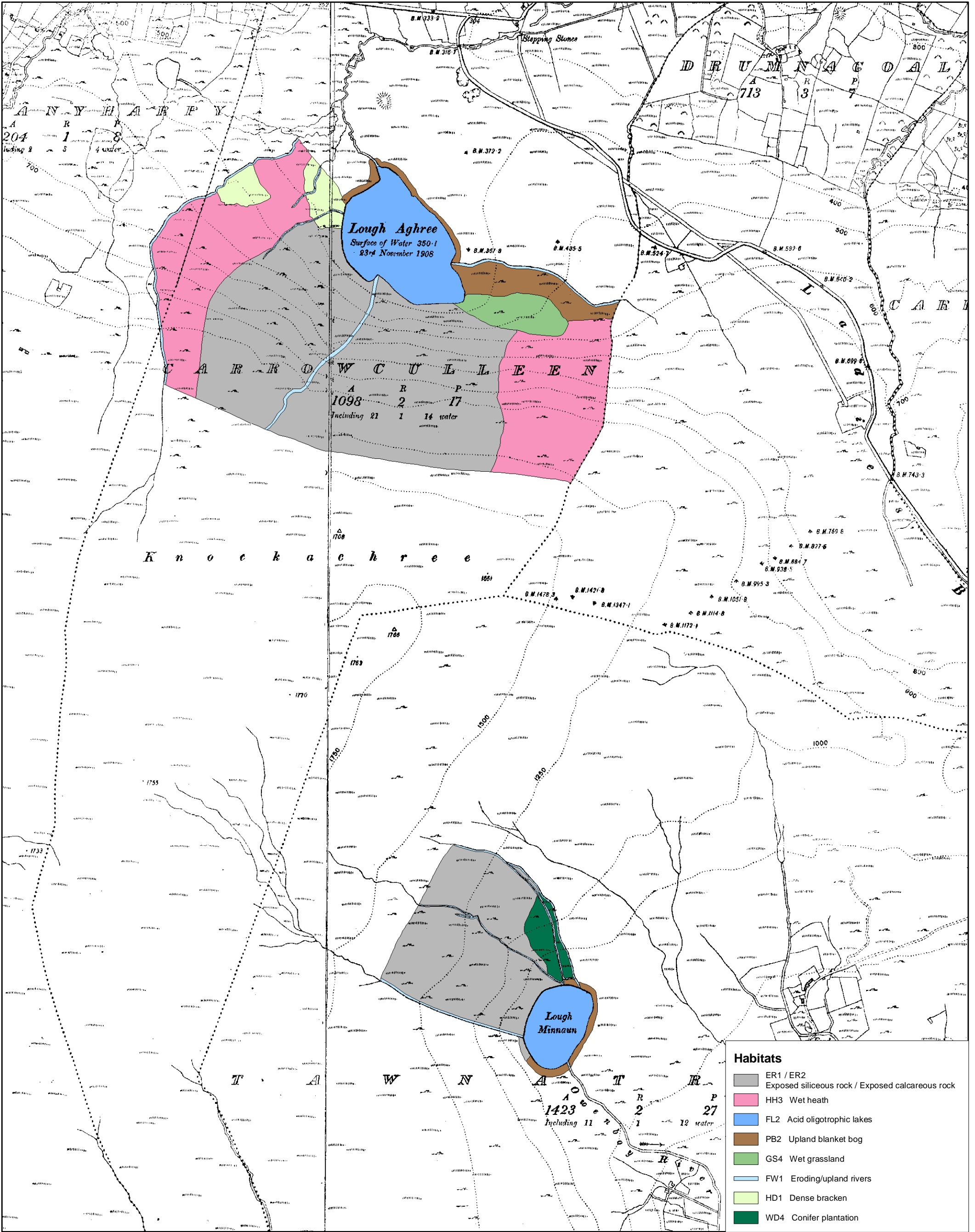
**MAP 1:
SITE LOCATION AND BOUNDARY**



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

Co-financed through 'Life' EU funding
Chomh-mhacoinithe trí chiste 'LIFE' and AE





| Habitats | |
|-----------|--|
| ER1 / ER2 | Exposed siliceous rock / Exposed calcareous rock |
| HH3 | Wet heath |
| FL2 | Acid oligotrophic lakes |
| PB2 | Upland blanket bog |
| GS4 | Wet grassland |
| FW1 | Eroding/upland rivers |
| HD1 | Dense bracken |
| WD4 | Conifer plantation |



CEANTAR SPEISIALTA CAOMHNATHE
CANDIDATE SPECIAL AREA OF CONSERVATION

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Knockalongy
and Knockachree Cliffs
County Sligo

0 100 200 400 M
Scale 1: 10,000

MAP 3:
INDICATIVE HABITAT MAP

O.S. six inch sheets: SL- 018, 019
Map to be read in conjunction with the conservation plan

SITE CODE
cSAC 001669
Version 1.00

Date:
October 2006

