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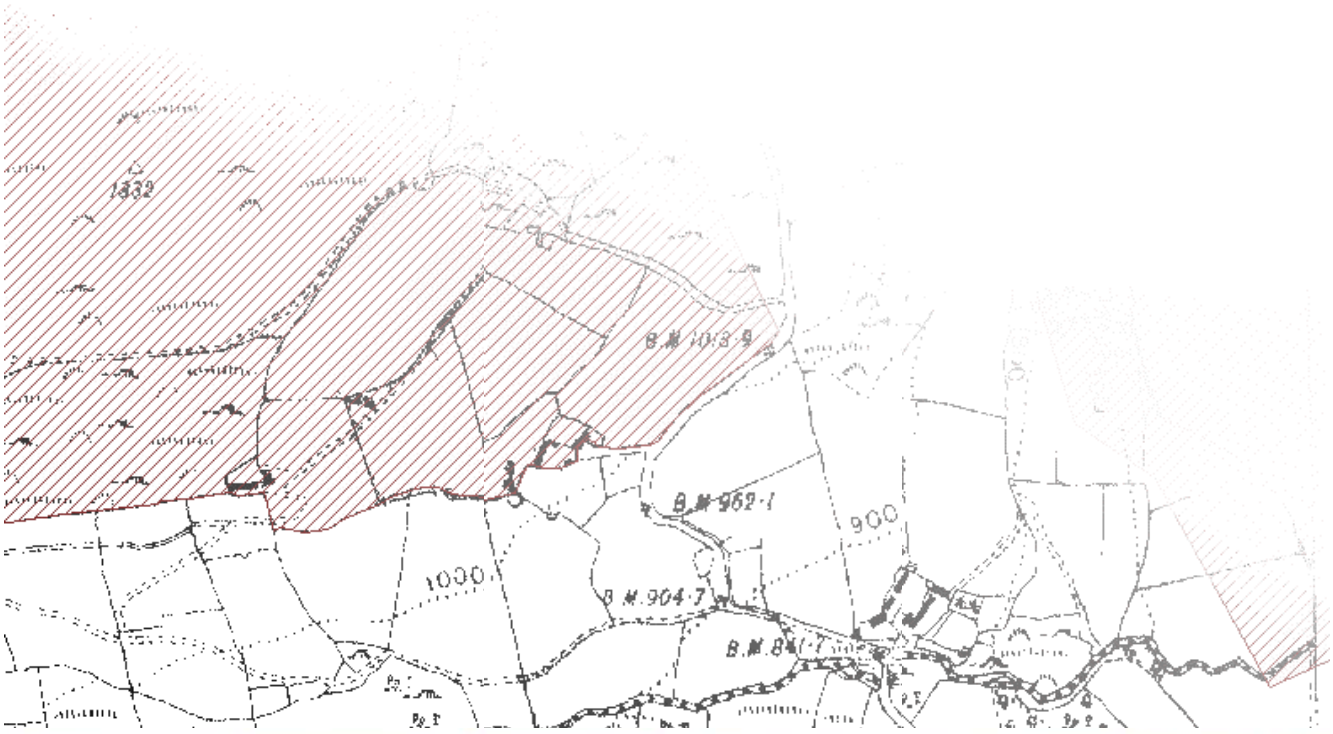
DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

National Parks and Wildlife Service Conservation Plan for 2005-2010

Ferbane Bog cSAC

Site Code 575

Co. Offaly








SUMMARY

Introduction

Ferbane Bog cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive. The site has been designated due to the presence of the Annex I priority habitat active raised bog, as well as two other Annex I habitats associated with raised bogs, namely degraded raised bogs still capable of natural regeneration and depressions on peat substrates of the *Rhynchosporion*.

Description of Ferbane Bog cSAC

Ferbane Bog cSAC is situated north-north-west of Ferbane town, Co. Offaly. It occurs in a basin, predominantly underlain by limestone, with clay-rich tills above the bedrock. It has suffered extensive drainage in the past, with the south and east traversed by drains. The National Parks and Wildlife Service own 75% of the site.

The most important habitat present on the site is the Annex I priority habitat active raised bog, which comprises 26% of site. It is wet, with approximately 60-80% lichen cover in some areas. Plants such as Ling Heather, Bog Rosemary, Cranberry and all three Sundew species grow. An area showing good growth of hummocks and hollows is present towards the south-east. In the east of the site, a wet quaking area occurs in a depression and is characterised by a dominant growth of Hare's-tail Cottongrass. There is also a very wet quaking area to the west of the site, with good inter-connecting pools. Carnation Sedge is present in abundance throughout all vegetation zones, but particularly on the sloping areas. There is a flushed area to the north of the site. Scots Pine, and to a lesser extent Birch trees, are encroaching onto the site, mostly from the east. Also of conservation significance is the presence of degraded raised bog still capable of natural regeneration, which comprises 50% of the total site area. This habitat surrounds the *active raised bog core and provides protection for it.

Other habitats present on the site include mixed woodland, cutover bog and lowland wet grassland. The mixed woodland is concentrated to the east of the site and is dominated by Birch, but Scots Pine is also common throughout. The cutover bog has been colonised by Birch, Scots Pine, Common Gorse and Bracken. Lowland wet grassland (mostly unimproved) is found on reclaimed cutover.

Noteworthy species among the raised bog plants include Oblong-leaved Sundew and Crowberry. Merlin, an important bird species, frequents the site.

The major current human use of the site is turf-cutting. This occurs in the north-west margins, using the ‘hopper’ method. Cattle grazing occurs on the wet grassland at the site margins. In the north-west of the site, vegetation communities occur that indicate a history of burning.

Main conservation objectives

- To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; active raised bog (26% area of the site), degraded peat still capable of natural regeneration (50%) and depressions on peat substrates of the *Rhynchosporion* (1%)
- To maintain other habitats at favourable conservation status, including deciduous woodland (9%), cutover bog (9%) and lowland wet grassland (5%)
- To maintain the populations of notable species on the site at favourable conservation status, including Merlin and important raised bog species such as Oblong-leaved Sundew and Crowberry
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities

Main management issues

- Burning
- Drainage
- Peat cutting

Main strategies to achieve objectives

- All commercial and industrial peat extraction to cease immediately
- Block all functioning surface drains on the high bog
- Restrict the felling of deciduous woodland
- Conserve cutover bog
- Stop fertiliser input and drainage extension within lowland wet grassland
- Monitor rare populations
- Liaison/consultation with landowners and 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 for Conservation Plans

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

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

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

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

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

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

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

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

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

Sites are legally protected once they are publicly advertised.

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

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

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

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

Reasons for Designation of Ferbane Bog cSAC

HABITATS LISTED IN ANNEX I OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
• ***Active raised bog** (EU Habitat Code 7110)	The active raised bog is representative of the range in geomorphological variation associated with this habitat.
• **Degraded raised bog still capable of natural regeneration** (EU Habitat Code 7120)	A substantial area of degraded raised bog still capable of natural regeneration is present within the site.
• **Depressions on peat substrates of the *Rhynchosporion*** (EU Habitat Code 7150)	A significant area of *Rhynchosporion* habitat in generally good condition occurs within the site.

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

Implications of Site Designation for Landowners and other Site Users

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

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

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

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

SITE DESCRIPTION

Location Including Site Boundaries

Ferbane Bog cSAC is located immediately north-north-west of Ferbane town, Co. Offaly. The main Athlone/Ferbane/Birr road is to the east of the site, with the Ferbane/Belmont road to the south.

Grid Ref.: N 11 25

Latitude: N 53º17'00"

Longitude: W 07º55'00"

Area: 153 ha

Altitude Range: 57 m to 62 m

Townlands: Ferbane, Ballyvora, Creggan and Endrim

Ferbane Bog

Site Infrastructure

Access to the site is from the Athlone/Ferbane road along an un-surfaced track to the north-east of the site.

Legal Status

Ownership

The majority (75%) of the site is owned by National Parks and Wildlife Service (NPWS), having been recently transferred from Bord na Mona ownership. The remainder is in private ownership (see Map 2).

Designations of the Site

candidate Special Area of Conservation	Sitecode IE0000575	Published on 1st March 1997
proposed Natural Heritage Area	Sitecode 575	Unpublished

Rights Pertaining to the Site

Rights of way NPWS have two rights of way to the east of the site (Map 2).

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 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.

Offaly County Council Offaly 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.

Local Authority Policy in relation to the Site

The draft Offaly County Development Plan (2002) lists Ferbane Bog as a cSAC and states that *"It is an objective to maintain the conservation value of those sites identified by Dúchas the Heritage Service as candidate Special Areas of Conservation…Offaly County Council will ensure that any development proposal in the vicinity of or affecting in any way a designated SAC provides sufficient information showing how its proposals will impact on the habitat of the SAC and appropriate amelioration."*

Physical Features

Climate

No meteorological measurements have been made on Ferbane Bog. Rainfall data from the nearby Ferbane rainfall station for the years 1951-1980 indicate that the area receives approximately 883mm of precipitation annually. The prevailing wind is south-westerly.

Recent studies indicate that evapotranspiration losses from a bog surface are significantly more than previously estimated by using potential evapotranspiration data from a regional, conventionally sited Meteorological Service station. The meteorological data for Ferbane Bog (1951-1981) can be summarised, as follows:

Rainfall (P)	883 mm/yr
Actual evapotranspiration (AE)	> 466.5/yr.
Potential recharge (PR)	< 416 mm/yr.
Raindays > 0.2 mm (annual 1951 - 1980)	207 days
Annual mean daily air temperature (1951 - 1980)	9.5 degrees C
Annual mean hourly wind speed (1962 - 1984)	c. 4 m/s (prevailing SW)

(Note: Potential recharge is the amount of water available for recharge after actual evapotranspiration has been accounted for i.e. PR = P - AE)

See Appendix III for 30 year climate data obtained from the meteorological station nearest to Ferbane Bog (Birr meteorological station).

Geology & Geomorphology

Ferbane Bog is a domed bog that slopes towards the edges. The slope is most pronounced to the north. A sunken area occurs to the north-east of the site. The subsoil geology of this bog and the surrounding area is dominated by two types of till. Sections in drains in the northerly cutover areas, indicate that the outer limits of the bog are underlain by stony tills. Cutover drains to the south-west show the till to have a clayey matrix. The area is predominantly underlain by Waulsortian Carboniferous limestones (Kelly *et al.*, 1995). See Appendix III for a detailed description of geology and geomorphology.

Soils & Soil Processes

The main component of the soil in a bog is water (88-97%). Apart from a negligible content of mineral material, the remainder of the soil is organic matter, being the remains of vegetation accumulated over time. The peat development reflects three stratigraphical layers; a poorly humified *Sphagnum* moss peat dome, a sub-surface layer of humified *Sphagnum* peat, and a basal fen layer.

The properties of material at and near the surface differ from those of the deeper (and older) peat. As a result of the greater compaction of lower peat layers, density increases and porosity decreases downwards. At and near the surface an 'active layer' (the acrotelm) can be distinguished. It is a relatively thin top layer (normally less than 50cm), and includes the living peat moss. The active layer has an oscillating water table, and also has a large hydraulic conductivity and variable water content. It is subject to periodic air entry when the water table lowers. This layer is rich in peat-forming aerobic micro-organisms and has a live matrix of growing plant material. It has also been described as the peat forming layer, in which live organic matter at the surface is undergoing conversion to peat (Kelly and Schouten, 1998).

Hydrology & Water Quality

Ferbane Bog cSAC lies in a groundwater recharge zone. The underlying Waulsortian Carboniferous limestones generally have low permeability. The site has suffered extensive drainage, and the south and east of the high bog is traversed by drains. Groundwater flow is thought to mirror topography; recharging at high ground, flowing north under the bog and discharging to the River Blackwater tributaries (Kelly *et al.*, 1995). See Appendix III for further information regarding the hydrology of Ferbane Bog.

Biological Features

Habitats and Vegetation

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

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

Habitats Found within Ferbane Bog cSAC

ANNEX I HABITAT TYPE	HABITAT CATEGORY	% AREA
*Active raised bog (EU Code 7110)	Raised bog	26%
Degraded raised bog still capable of natural regeneration (EU Code 7120)/	Raised bog	50%
Depressions on peat substrates of the *Rhynchosporion* (EU Code 7150)	Raised bog	1% (in mosaic with *active raised bog)
-	Mixed woodland	9%
-	Cutover bog	9%
-	Lowland wet grassland	5%

Annex I Habitats:

***Active raised bog (7110)** *(26% of total site area or 40ha)* **in mosaic with Depressions on peat substrates of the *Rhynchosporion* (7150)** *(1% of total site area or 2ha)*

This is a wet, raised bog, with approximately 60-80% lichen cover in areas not recently burned and in some quaking areas. Large *Sphagnum imbricatum* hummocks and carpets of *Sphagnum magellanicum* occur. An area showing good growth of hummocks and hollows is present towards the south-east. Plants such as Ling Heather (*Calluna vulgaris*), Bog Rosemary (*Andromeda polifolia*), Cranberry (*Vaccinium oxycoccus*) and all three Sundews (including *Drosera intermedia*) occur.

A wet quaking area to the east occurs in a depression and is characterised by a dominant growth of Hare's-tail Cottongrass (*Eriophorum vaginatum*). The depression may be due to subsidence associated with a nearby drain and/or the result of extensive peat cutting along the east of the bog, in the past. There is also a very wet quaking area to the west of the site, with good inter-connecting pools. Around these very wet areas is a slightly drier area with *Sphagnum magellanicum* lawns, and hummocks of *S. papillosum* and *S. capillifolium*, with some taller hummocks of *S. imbricatum*. Carnation Sedge (*Carex panicea*) is present in abundance throughout all vegetation zones, but particularly on the sloping areas. There is a flushed area to the north of the site. There are separate patches of Bog-myrtle (*Myrica gale*) and Purple Moor-grass (*Molinia caerulea)* throughout the bog.

***Active raised bog (7110) in mosaic with Depressions on peat substrates of the *Rhynchosporion* (7150) (contd)**

Scots Pine (*Pinus sylvestris*), and to a lesser extent Birch (*Betula* sp.) trees, are encroaching onto the site mostly from the east, but also at the north, south and north-west. They extend approximately 300m onto the northern and southern sections of the site, and slightly less along the mid-east sections. Rhododendron (*Rhododendron ponticum*) is also encroaching from the north-east and Oak (*Quercus* spp.) from the south. The raised bog can be divided into a number of ecotopes. These are the central, sub-central and marginal ecotopes (see Appendix IV for a detailed description of ecotopes).

Degraded raised bog still capable of regeneration (7120) *(50% of total site area or 77ha)* **and Cutover bog**

The vegetation of old cutover bog to the west, north and east of the site is dominated by Birch and tall Gorse (*Ulex europaeus*), with Bracken (*Pteridium aquilinum*) growing in the open areas. There is a small section of abandoned cutover bog along the middle of the north side, which is now colonised by Bracken and Gorse. At the north-east of the site, Rhododendron, Bilberry (*Vaccinium myrtillus*) and Scots Pine occur.

There is regenerating peat at the south-east and south-west of the site. The facebank edges are very low in both regeneration areas. The area to the south-west is dominated by Hare's-tail Cottongrass with Ling Heather, Yorkshire Fog (*Holcus lanatus*), rushes (*Juncus effusus, J. bulbosus*), Heath Wood-rush (*Luzula multiflora*) and sedges (*Carex echinata, C. nigra*). To the south-east, *Sphagnum* and Ling Heather dominate with Gorse and Birch.

A small pool area is present towards the south-east, with Purple Moor-grass, Soft Rush (*Juncus effusus)* and *Sphagnum cuspidatum*. At the south-west and in more recent cutovers at the west, Purple Moor-grass occurs. On older cutover areas, dense stands of Birch and Gorse dominate, with Willow also occurring along the northern edge.

There is an area of mesotrophic vegetation in the old cutover bog at the west of the site, where the bog has slumped. There is no surface water here. Species found include Bulrush (*Typha latifolia*), Bogbean (*Menyanthes trifoliata*), Heath Spotted-orchid (*Dactylorhiza maculata*) and Tormentil (*Potentilla erecta*), with small amounts of Cross-leaved Heath (*Erica tetralix*), Ling Heather and *Sphagnum* (*S. capillifolium* and *S. subnitens)*.

Other Habitats:

Mixed woodland

There is mature mixed woodland to the south of the site dominated by tall Birch with Scots Pine, Willow (*Salix* sp.) and some Oak and Ash (*Fraxinus excelsior*). Honeysuckle (*Lonicera pericylmenum*), a ground layer of Broad Buckler-fern (*Dryopteris dilatata*), *Sphagnum squarrosum* and Bramble (*Rubus fruticosus*) are also present. Woodland of mainly Scots Pine and Birch also occurs to the north and east of the bog. The existing trees may be remnants of the former woodland. However, the 1970s aerial photograph shows these areas with a lot fewer trees than currently occur. Therefore, regeneration has probably occurred due to the cessation of peat cutting.

Cutover bog

See habitat details listed under Annex I habitat ‘degraded raised bog still capable of natural regeneration’.

Lowland wet grassland

This habitat is found on reclaimed cutover areas (e.g. north, north-west, west and south-east) of the site. Some improvement of these grasslands has occurred in places, with the grassland to the west the most improved, although it is still quite wet. The rough grassland to the south-east has been described (Kelly *et al*., 1995) as a wet meadow supporting Meadow Buttercup (*Ranunculus acris*), Heath Bedstraw (*Galium saxatile*), Ribwort Plantain (*Plantago lanceolota*), Silverweed (*Potentilla anserina*), Meadowsweet (*Filipendula ulmaria*), Heath Spotted-orchid, Sweet Vernal-grass (*Anthoxanthum odoratum*) and Red Fescue (*Festuca rubra*). Willow, Birch, Bramble and Oak seedlings are also found. There is a drain at the eastern edge of the field with Cuckooflower (*Cardamine pratense*), Bottle Sedge (*Carex rostrata*), Common Sedge (*C. nigra*) and Red Clover (*Trifolium pratense*).

Notable Flora:

*Active raised bog habitat is becoming increasingly rare and as such, its distinctive plant species are also in decline. Ferbane Bog cSAC displays the characteristic species of an Irish, midland, raised bog. Noteworthy species are Oblong-leaved Sundew (*Drosera intermedia*) and to a lesser extent, Crowberry (*Empetrum nigrum*).

Fauna:

Amphibians and Reptiles

The Common Frog (*Rana temporaria*) occurs in the site, which is listed under Annex V of the EU Habitats Directive and is listed as internationally important in the Irish Red Data Book.

Birds

Snipe (*Gallinago gallinago*), Curlew (*Numenius arquata*), Meadow Pipit (*Anthus pratensis*), Skylark (*Alauda arvensis*) and possibly Lapwing (*Vanellus vanellus*) nest on site. Pheasant (*Phasianus colchicus*) and Woodcock (*Scolopax rusticola*) occur at the site margins. Other birds that frequent the site include Sparrowhawk (*Accipiter nisus*), Kestrel (*Falco tinnunculus*) and Merlin (*Falco columbarius*). Merlin is listed under Annex I of the EU Birds Directive.

Merlin (Falco columbarius)

Mammals

Irish Hare (*Lepus timidus hibernicus*) is common on the site, with Badger (*Meles meles*), Fox (*Vulpes vulpes*) and possibly Fallow Deer (*Dama dama*) also found. Irish Hare and Badger are listed as internationally important in the Irish Red Data Book.

Land Use

Land use on the site

Peat cutting Active peat cutting by hopper method is carried out at the north-western site margins. New drains have been cut into the high bog in association with this.

Agriculture Cattle are grazed in the lowland wet grassland areas.

Timber extraction Some extraction of timber occurs within the eastern site margins, mostly for firewood and fence posts.

Land use adjacent to the site

Agriculture Cattle and, to a lesser extent, sheep grazing are the major land uses adjacent to the site.

Residential There are some scattered residential buildings.

Timber extraction Some extraction of timber occurs adjacent to the eastern site margins, where a small Birch dominated woodland is present.

Past human use

In the past, peat cutting to the north and east of the site was significant. There is a series of lines drawn on the 1910, 6" map, which correspond with old turbary rights. More recent peat extraction is evidenced by abandoned sausage machine cut peat, at the north and south of the site (Kelly *et al*., 1995). The bog was selected for development as a peat source by Bord na Mona in 1983. This has not occurred and the site was subsequently transferred to NPWS ownership in 1996.

The very high percentage of lichen cover over the majority of this site and the presence of *Sphagnum imbricatum* hummocks, indicate that these areas do not have a recent history of burning. However, an area to the south-east has been recently burnt. Here, *Sphagnum* cover is low and Carnation Sedge cover has increased, indicating fire and/or disturbance. Communities indicating a fire history are found at the very north-west of the site also.

The 1910, 6" map shows planted forestry to the east of the site. This was probably predominantly Scots Pine. This has most likely been felled and regenerated over the years, with the invasion of other species e.g. Birch.

Recorded Monuments and Other Features

There are no recorded monuments known from the site.

CONSERVATION VALUE OF FERBANE BOG cSAC

Ferbane Bog cSAC has been selected for conservation as it is representative of the range in geomorphological variation associated with the Annex I priority habitat, *active raised bog. The site also supports a relatively large area (50% of the site) of degraded raised bog still capable of regeneration, which surrounds and protects the active core of the raised bog within the site. This habitat has been degraded primarily by drainage associated with peat cutting. The site contains a significant area of depressions on peat of the *Rhynchosporion*, which occurs mostly in association with the *active raised bog areas.

The areas of the site that are not priority habitat mainly consist of cutover bog, woodland and lowland wet grassland. Active peat-cutting is low, but should cease entirely. There are extensive surface drains, and as a result, pine is invading from the north, east, and south. Blocking of these surface drains should cause re-wetting. Marginal dams are required if restoration of the central area is to be achieved. The conservation of this site is still possible.

MANAGEMENT FRAMEWORK

Conservation Objectives

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

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

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

The favourable conservation status of a species is achieved when:

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

Objective 1:	To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; *active raised bog (26% area of the site), degraded peat still capable of natural regeneration (50%) and depressions on peat substrates of the *Rhynchosporion* (1% in mosaic with *active raised bog).
Objective 2:	To maintain other habitats at favourable conservation status, including deciduous woodland (9%), cutover bog (9%) and lowland wet grassland (5%).
Objective 3:	To maintain the populations of notable species on the site at favourable conservation status, including Merlin and important raised bog species such as Oblong-leaved Sundew and Crowberry.
Objective 4:	To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Management Issues

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

- **Burning**
- **Dam construction**
- **Drainage**
- **Dumping**
- **Invasive species**
- **Lands in private ownership**
- **Peat cutting**
- **Restoration of a lagg zone**

Burning

Burning has been practised on the site in the past and, in places, some flora species are still indicative of previous burning. Burning has not occurred recently, except in an area to the south-east. Burning is never desirable on raised bogs and can be ecologically very damaging. It is important that the site is managed in such a way to ensure burning does not occur again.

Dam construction

It may be desirable to place marginal dams to the north, north-west and east of the site to help in maintaining water levels. Prior to this, levelling of the bog is required to determine the shape of, and slopes on, the bog. If the slope is too steep, dams will not be effective in preventing desiccation. If it is decided that dams are a desirable option, then cost could be a limiting factor, with the current cost at c. €760 per linear metre.

Drainage

Drainage channels (c. 12,041 m dug) serve to dry-out the bog and inhibit the improvement of the ecological quality of the raised bog. Blocking of drains is important in conserving this priority habitat. However, there may be limitations associated with drain blockage. It is important that drain blocking does not deteriorate the ecological quality of the wet hollow to the west of the site. It is possible that current drains serve to feed water to this area. Also, drain blocking on the bog margins could possibly flood lands adjacent to the site.

Dumping

Dumping occurs on the north-western edge of the site and to the north-east on the laneway access to the bog (outside site boundaries).

Invasive species

Scots Pine and Rhododendron have colonised the high bog in places. Scots Pine is invading the bog to the north, east and south of the site from nearby plantations, and is a major problem. After surface drains have been blocked, it is anticipated that the pines will die. If the pines do not die,

they should be removed. Scots Pine and Rhododendron are not natural bog plants and can cause localised drying of the bog.

Lands in private ownership

Some lands inside the site are in private ownership. Activities detrimental to the conservation of the raised bog could occur here (e.g. turf extraction, drainage, fertilisation and slurry spreading). On lands adjoining the site boundary, these farming practices may also impact on the bog. Fertilisation and slurry spreading on improved fields outside the site margins could cause enrichment of groundwater and drains, and thus impact on bog hydrochemistry. Therefore, liaison with the owners is required regarding potentially detrimental activities such as those mentioned above.

Peat cutting

Past and current peat cutting has resulted in desiccation of the bog and degradation of its hydrological integrity. Peat cutting is occurring in approximately 10% of the site in the north-west margins, where turbary rights are still held. This activity removes peat and bogland plants. The ecological enhancement of the raised bog, to the extent and diversity existing prior to human impacts, is not an achievable aim. The peat has mostly been removed from the margins (cutover) and areas of former lagg have been reclaimed, almost beyond recognition.

Restoration of a lagg zone

Full re-creation of the lagg zone is not possible, due to man's past activities of marginal turf extraction and associated drainage. Much of the former lagg zone has been destroyed and reclaimed. However, with the exception of the north of the site, some areas of former lagg vegetation could be achieved (Kelly *et al*., 1995). The proposed strategies of blocking drains and possible dam construction, are the only measures required in achieving this aim within the time frame of this plan.

General Strategies

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

Implement plan

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

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

Establish a monitoring regime

The monitoring regime for the site will comprise:

Scientific monitoring Monitoring of the conservation status of the qualifying interests will be done by, or on behalf of, the staff of the Monitoring Section of the NPWS or staff working to NPWS in accordance with the procedures laid down by that section.

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

Site surveillance Regular inspection of the site by the NPWS staff, with special attention to the qualifying interests will identify any major changes, damaging operations, or threats should they arise.

Enforce notifiable actions

Certain activities may be restricted in SACs. Notifiable Actions for particular habitats and species are listed in Appendix V of this plan. Consent from the Minister may be required before these actions may be carried out within the designated area For example, cutting turf or peat moss extraction are notifiable actions for raised bogs.

Specific Strategies

Objective 1.

To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; *active raised bog (26% area of the site), degraded peat still capable of natural regeneration (50%) and depressions on peat substrates of the *Rhynchosporion* (1% in mosaic with *active raised bog).

Strategies:

1.1. Cease turf cutting

Commercial and industrial cutting on designated areas is being phased out: Existing arrangements may continue by arrangement with DEHLG this season (2003) on condition that no new drains are developed and existing drains are not deepened.

The impact of domestic cutting is currently being assessed on an individual site basis. If cutting is deemed to be causing negative impact on the site it must cease. If cutting is deemed to be causing no significant damage it will be permitted to continue until 2008 after which all cutting must cease.

Sausage machines may not be used, but face-bank and hopper machines may be used. Cutting requires a permit from the Minister; those intending to cut turf this season for domestic purposes should inform the local Conservation Ranger.

DEHLG is seeking to purchase turbary rights and, where possible fee simple ownership on raised bogs at the following rates: €3451 per ha (€1396 per acre) for turbary rights and €4080 per ha (€1651 per acre) where fee simple and turbary rights apply.

1.2. Block all functioning surface drains on the high bog

Drain blocking will be achieved using peat from the side of the drain itself (hand blocking), or from a borrow pit adjacent to the drain. The blocks will project above the general bog surface, so that the water in the drain must flow back onto the bog surface, rather than simply flowing through the drain at a higher level.

Prior to blocking drains in the vicinity of the wet hollow (central ecotope), the impact of such works on this area will be assessed (i.e. whether drain blocking would result in increased dessication in the hollow).

1.3. Block marginal drains

Marginal drains in the cutover bog and woodland habitats will be blocked.

1.4. Consider blocking peripheral drains

NPWS will consider blocking peripheral drains at the site boundary. The positive impact on bog hydrology will be assessed, and weighed against the possibility of this action causing flooding of adjoining farm land.

1.5. Purchase remainder of site

NPWS aims to purchase privately owned lands within the site, giving priority to areas of high bog. Where lands are not for sale or not targeted for purchase, but conservation work is necessary, long term management agreements such as in REPS plans are needed.

1.6. Prevent burning on site

It is important that no burning occurs, as this is very damaging to the bog habitat. Burning is a notifiable action.

1.7.	**Instigate facebank survey**	NPWS will survey areas of current peat cutting and high facebanks. Facebanks will be regraded as required by the findings of this survey.
1.8.	**Levelling of the high bog**	NPWS will complete levelling of the high bog and insert benchmarks for future reference. This is required to determine the shape of, and slopes on, the bog. If the slope is too steep, dams will not be effective in preventing desiccation.
1.9.	**Remove Rhododendron**	NPWS will remove any Rhododendron growing on the high bog.
1.10	**Recreate some areas of lagg vegetation**	Implementing the above strategies are the only measures required to recreate areas of lagg vegetation within the time frame of this plan.

Objective 2.

To maintain other habitats at favourable conservation status, including deciduous woodland (9%), cutover bog (9%) and lowland wet grassland (5%).

Strategies:

2.1.	**Restrict the felling of deciduous woodland**	NPWS will liaise with landowners regarding restricting the felling of trees and scrub. Tree felling requires a licence from the forest service.
2.2.	**Conserve cutover bog**	Strategies mentioned under Objective 1, such as drain blockage and cessation of turf cutting and burning, are necessary to conserve and improve the cutover bog habitat.
2.3.	**Maintain lowland wet grassland**	Liaison with landowners is required to prevent fertiliser input and drainage extension on these wet grassland areas. Such activities are notifiable actions.

Objective 3.

To maintain the populations of notable species on the site at favourable conservation status, including Merlin and important raised bog species such as Oblong-leaved Sundew and Crowberry.

Strategies:

3.1.	**Protect habitats present**	Protecting the present habitats using the fore-mentioned strategies (1.1-1.10 and 2.1-2.3) will maintain the populations of rare flora and fauna.
3.2.	**Prevent shooting**	NPWS will strive to prevent shooting on land in its ownership.

Objective 4.

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

Strategies:

4.1.	**Liaise with interested parties**	NPWS will strive to initiate and maintain effective liaison with landowners, legal users (particularly through the Liaison Committee), relevant authorities and interested parties on achieving the objectives for conservation of the site.
4.2.	**Liaise with REPS planners**	REPS planners should consult with local NPWS staff when they are developing plans for land within the site.

Zoning

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

Zone B: Active Management

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

B1: ***Active raised bog/degraded raised bog still capable of regeneration and *Rhynchosporion* habitat**
Strategies 1.2, 1.5-1.9 and the general strategies apply.

B2: **Lowland wet grassland**
Strategies 2.3, 4.1 and the general strategies apply.

B3: **Cutover bog and deciduous woodland**
Strategies 1.3-1.6, 1.9, 2.1 and the general strategies apply.

B4: **Area of recent turf cutting**
Strategies 1.1, 1.7 and the general strategies apply.

Zone D: Impact Zone

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

D1: **Surrounding lands**
The lands surrounding the site can pose a threat to its ecological quality. Drainage can impact on the bog hydrology, while fertilisation and slurry spreading can effect the hydrochemistry of the bog margins. Therefore, land management practices in adjoining lands need to be taken into account in the management of the raised bog.

Summary of Specific Strategies

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

	Strategy	Action required	Who to implement	When/Duration/ Frequency	Estimated Total Cost	Additional Resources needed
1.1.	Cease turf cutting	DEHLG to purchase turbary rights.	DEHLG			
1.2.	Block all functioning surface drains on the high bog	Blocking using peat from side of drain, or from a barrow pit.	NPWS			
1.3.	Block marginal drains	Block marginal drains in the cutover and woodland habitats.	NPWS			
1.4.	Consider blocking peripheral drains	First assess impact on water hydrology and surrounding land.	NPWS			
1.5.	Purchase remainder of site	Give priority to privately owned areas of high bog.	NPWS			
1.6.	Prevent burning on site	All burning to cease	NPWS			
1.7.	Instigate facebank survey	Carry out survey in areas of current turbary and high facebanks.	NPWS			
1.8.	Levelling of the high bog	Complete levelling of the high bog.	NPWS			
1.9.	Remove Rhododendron	All Rhododendrons growing on high bog removed.	NPWS			
1.10	Recreate some areas of lagg vegetation	All actions mentioned above	NPWS			
2.1.	Restrict the felling of deciduous woodland	Liase with landowners	NPWS			
2.2.	Conserve cutover bog	Drain blockage, cessation of burning and turf cutting.	NPWS			
2.3.	Maintain lowland wet grassland	Stop fertiliser input through liaison with landowners	NPWS			
3.1.	Protect habitats present	All actions mentioned above	NPWS			
3.2.	Prevent shooting	Prevent shooting through consultation with shooters	NPWS			
4.1.	Liaise with interested parties	Maintain effective liaison with interested parties on achieving conservation objectives	NPWS			
4.2.	Liaise with REPS planners	REPS planners must consult with NPWS when developing plans for land within the site	NPWS/ REPS planners			

APPENDIX I: GLOSSARY

ACROTELM - The living, actively growing upper layer of a raised bog, the surface of which is composed mainly of living Bog Mosses (*Sphagnum* spp.). The presence of the actrotelm is vital to a raised bog as this is the peat forming layer and water storing layer of the bog.

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 Habitats Directive is a list of species for which SACs have to be designated.

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

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

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

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

BIOTIC FACTORS – The influence of living components of the environment on 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.

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

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.

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

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.

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

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

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

ECOTOPE - The abiotic environment or habitat of a particular biotic system.

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

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

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

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.

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

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

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

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

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

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

IMPROVED GRASSLAND – An NPWS habitat classification describing species poor grassland, distinctive by its even appearance and bright colour, usually heavily fertilised and re-seeded with fast growing grasses.

IUCN – World Conservation Union

LAGG - a term used to describe the transition from bog to mineral soil around a raised bog.

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

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

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

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

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

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

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

MIXED WOODLAND - An NPWS habitat classification that describes woodland that is structurally similar to dry (& wet) broad-leaved semi-natural woodland, i.e. the canopy in most places must achieve a height of 5 m. In mixed woodland however, the cover of exotic species within a block exceeds 10%.

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

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

NATIONAL PARKS AND WILDLIFE SERVICE (NPWS) – the section of the Environment Infrastructure and Services division of the Department of Environment, Heritage and Local

Government with responsibility for nature conservation and implementation of Government conservation policy as enunciated by the Minister for the Environment, Heritage and Local Government.

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

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

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

NPWS - National Parks and Wildlife Service

OS – Ordnance Survey

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

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

PEAT CUTTING BY MACHINE - See mechanical peat extraction.

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

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

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

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

PRIVATE OWNERSHIP - Land which is owned by one private landowner.

PROXIMITY - Nearness in space.

RAISED BOG - An NPWS habitat classification characterised by an elevated dome of peat, the surface of which is isolated from the surrounding ground water table and receiving water solely from precipitation. The peat surface is wet, often with pools and hummock hollow systems and is usually dominated by Sphagnum mosses and bushy Heather, with Deer-grass, Bog Cottons and other associated species. Raised bogs can be distinguished from blanket bogs by their paucity of grasses which typify blanket bog.

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

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

REPS - Rural Environmental Protection Scheme. This is an Agri-Environmental programme which seeks to draw up agreements with farmers, according to the type of farming, landscape and features on the land. The overall objectives of REPS are to achieve: the use of farming practices which reduce the polluting effects of agriculture by minimising nutrient loss- an environmentally favourable extensification of crop farming, and sheep farming and cattle farming; - ways of using agricultural land which are compatible with protection and improvement of the environment, the

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

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

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

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

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

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

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

TILL - Unconsolidated, unsorted glacial deposits.

TURBARY – Refers to the right to harvest turf.

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: 15

O.S. Discovery (1:50,000) map: 47

O.S. 6 inch (1: 10,560) map: OY014

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.

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

Heathland survey (1993), NPWS files, Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Photographic Coverage:

Aerial photo No. 6670, Flight Line 39B. Date: 1995. NPWS, The Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Relevant Legislation:

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

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

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

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APPENDIX III: PHYSICAL PROCESSES AFFECTING THE SITE

Climate

BIRR
monthly and annual mean and extreme values
1961-1990

TEMPERATURE *(degrees Celsius)*	*jan*	*feb*	*mar*	*apr*	*may*	*jun*	*jul*	*aug*	*sep*	*oct*	*nov*	*dec*	*year*
mean daily max.	7.5	7.9	9.8	12.2	14.9	17.7	19.2	18.8	16.6	13.6	9.7	8.2	**13**
mean daily min.	1.8	1.8	2.5	3.5	5.9	8.7	10.7	10.3	8.5	6.7	3.1	2.5	**5.5**
mean	4.6	4.8	6.1	7.9	10.4	13.2	14.9	14.6	12.6	10.1	6.4	5.4	**9.3**
absolute max.	13.8	15	19.7	23.7	25.7	31.2	30.8	29.3	24.5	22.3	17.5	15.3	**31.2**
absolute min.	-14.6	-10.5	-10.5	-4.6	-2.2	-0.3	3.1	1.2	-1	-3.4	-7.2	-9.4	**-14.6**
mean no. of days with air frost	9	7.7	7	4.2	1	0.1	0	0	0.3	1.5	7.1	7.8	**45.7**
mean no. of days with ground frost	17	15.1	13.6	11.8	6.1	1.2	0.1	0.2	2	4.9	13	15	**99.9**
RELATIVE HUMIDITY *(%)*													
mean at 0900UTC	90	89	87	82	77	78	80	84	86	89	90	90	**85**
mean at 1500UTC	83	76	71	65	64	66	67	68	71	76	80	84	**73**
SUNSHINE *(hours)*													
mean daily duration	1.6	2.31	3.18	4.64	5.32	4.8	4.24	4.16	3.58	2.67	2.03	1.41	**3.33**
greatest daily duration	7.2	9.2	11.7	13.6	15.2	15.6	15.2	13.8	11.3	9.7	8.1	6.7	**15.6**
mean no. of days with no sun	11	7	5	3	2	2	3	2	4	6	9	12	**66**
RAINFALL *(mm)*													
mean monthly total	75.9	54	61.3	52.5	61.7	55.2	59.1	77.6	70.6	83.5	74.1	78.6	**804.2**
greatest daily total	28.6	35.3	25.9	30.9	26.3	27.5	39.5	42.2	25.6	40.3	25.9	47.1	**47.1**
mean no. of days with >= 0.2mm	19	15	18	15	17	16	15	17	17	18	18	19	**204**
mean no. of days with >= 1.0mm	14	11	13	11	13	11	10	13	12	14	13	14	**148**
mean no. of days with >= 5.0mm	6	4	4	4	5	3	4	5	5	6	5	6	**57**
WIND *(knots)*													
mean monthly speed	8	8.1	8.1	7	6.7	6.1	5.8	6	6.6	7.2	7.1	7.9	**7**
max. gust	85	77	62	58	55	49	49	58	81	65	60	69	**85**
max. mean 10-minute speed	51	40	36	34	31	28	27	35	39	40	34	43	**51**
mean no. of days with gales	0.4	0.4	0.1	0	0	0	0	0	0	0.1	0	0.2	**1.2**
WEATHER *(mean no. of days with..)*													
snow or sleet	4.9	3.8	2.7	1.1	0.1	0	0	0	0	0	0.6	2.6	**15.9**
snow lying at 0900UTC	3.1	1.9	0.8	0.2	0	0	0	0	0	0	0	0.6	**6.6**
hail	0.6	0.9	2.6	1.8	1.1	0.3	0	0.2	0.2	0.2	0.5	0.3	**8.7**
thunder	0.1	0.1	0.3	0.3	0.6	1.1	1	0.7	0.5	0.2	0.2	0.1	**5.2**
fog	3.2	1.8	1.7	2.4	1.2	1.4	1.9	3.2	3.3	3.6	2.8	3.4	**29.9**

Source: Met Eireann

Geology and Geomorphology

(from Kelly *et al.*, 1995)

Topography

This is a domed bog with slopes towards the edges. The slope is most pronounced to the north. A sunken area occurs to the north-east of the site. The bog is situated in a basin, surrounded by higher ground on all sides due to bedrock outcrops or rocks, close to the surface.

Bedrock geology

The area is predominantly underlain by Waulsortian Carboniferous limestones (fossiliferous mudmounds). A SW/NE trending fault lies to the SE of the bog. On the south side of the fault, there are ABL limestones, Limestone Shales and Old Red Sandstones.

Sub-soil geology

The subsoil geology of this bog and surrounding area are dominated by two types of till. Sections in drains in the northerly cutover areas, indicate that the outer limits of the bog are underlain by stony tills. Cutover drains to the south west show the till to have a clayey matrix.

It is understood that Ferbane Bog is predominantly underlain by the clay-rich tills. However, it cannot be discounted that the bog is underlain by lake clays until coring is carried out.

Hydrology and Water Quality

Ferbane Bog lies in a groundwater recharge zone and is situated predominantly on Waulsortian limestones in a basin. The Waulsortian limestones generally have low permeability and are classed as a poor aquifer. In the inorganic till subsoil, there is a high proportion of fines, suggesting it too has low permeability.

This site has suffered extensive drainage, and the south and east of the high bog is traversed by drains. Most of these drains correspond to lines marked on the 1910, 6" sheet. Parts of some of these drains are now completely infilled and are no longer easily visible in the field, particularly in the south. Generally, there are few marginal drains that are related to peat cutting. However, there are several deep and wide perimeter drains, which run parallel to the bog faces some distance into the cutover, and lie at the break in slope from mineral soil.

Groundwater flow is thought to mirror topography, recharging at the high ground, flowing north under the bog and discharging to the River Blackwater tributaries. All the deep marginal drains intercept the regional water-table. In all cases they have electroconductivities (ECs) of > 700 microS/cm, since they intercept the water-table which is shallow, due to the underlying aquifer being of low permeability. Electroconductivities measured in surface drains around the bog range from 600 - 700 microS/cm.

APPENDIX IV: DETAILED INFORMATION ON HABITATS AND VEGETATION

The following provides further details of the three ecotopes related to the *active raised bog habitat.

Central ecotope

This can be seen at the western side of the site in a small depressed area. It is possibly associated with subsidence resulting from the active cutover to the west and appears to be slightly flushed. The *Sphagnum* cover is almost 100%, mainly consisting of *S. magellanicum* and *S. cuspidatum* inter-connecting pools, with White Beak-sedge (*Rhyncospora alba*) at the edges. Some *Sphagnum recurvum* lawns also occur. On the approach to this area from the east, there is a well-developed area of large hummocks of *Sphagnum imbricatum* and *S. papillosum*, overgrown by Cranberry. Cottongrass (*Eriophorum angustifoloium* and *E. vaginatum*) occur in the inter-pool areas.

Sub-central ecotope

Around the wetter areas of the high bog, vegetation dominated (70%) by *Sphagnum* moss (i.e. *S. magellanicum, S. capillifolium and S. papillosum*) and Carnation Sedge can be found, with Hare's-tail Cottongrass common. A similar area to the north of the site, amid pine trees, hosts Cranberry and Crowberry. In parts, this vegetation complex can have up to 25% *Cladonia* lichen cover (mainly *C. portentosa* and *C. uncialis*).

A transitional *Sphagnum magellanicum* complex is found on a level plateau of the high bog. Hummocks and lawns are dominated by this moss. In addition, there are *S. papillosum* lawns and hummocks hosting *S. imbricatum, S. fuscum* and *S. capillifolium* with Cottongrass also. Although the hummocks can be quite high, this complex does not have a typical hummock surface. There are not many pools present. The *Sphagnum* cover is 70% and the lichen *Cladonia portentosa* normally only reaches 20% cover, but in some areas it can be up to 60%.

A small area near the east of this ecotope is much wetter. It is infilled with Common Cottongrass and *Sphagnum magellanicum*. There are some areas of *Sphagnum cuspidatum* pools. This may be an area of subsidence, associated with nearby drains.

Marginal ecotope

A facebank vegetation complex extends around most of the bog. Ling Heather here reaches heights of 1m, particularly at the north and east where Scots Pine, Rhododendron, Birch and Gorse encroach onto the bog. *Cladonia* lichen cover is high.

Around the lower slopes at the north and north-east, Deergrass (*Trichophorum caespitosum*) and Ling Heather dominate with *Cladonia portentosa* lichen and pine trees encroaching. Surface water accumulates in places and algal hollows with White Beak-sedge occur. To the south of the site,

Deergrass also dominates in a small area. To the north-west, Deergrass again dominates with Carnation Sedge, Ling Heather and *Cladonia* lichen. Purple Moor-grass and Tormentil invade in places along the edge here.

Carnation Sedge is plentiful around south-central areas with *Sphagnum* (e.g. *S. magellanicum* hummocks and lawns, and *S. cuspidatum* pools) and Hare's-tail Cottongrass. *Cladonia* lichen cover can be very low, but in some places it is up to 80-90%. In these areas, *Sphagnum* cover is low, Ling Heather cover is high and a significant amount of Common Cottongrass can be found.

On the north-east and west of this ecotope, Bog Asphodel (*Narthecium ossifragum*) and Carnation Sedge communities occur, with a high cover of *Cladonia* lichen. The area is very dry with *Sphagnum imbricatum* hummocks and algal hollows.

The south-east of this ecotope is dominated by Carnation Sedge, Bog Asphodel and White Beak-sedge flats. In addition, there is a high amount of Cross-leaved Heath (*Erica tetralix*). Stretching west from here, the vegetation changes to a dominance of Carnation Sedge, *Cladonia portentosa* lichen, Ling Heather and Cottongrass. The total *Sphagnum* cover here is low and consists of low hummocks of *S. magellanicum*, *S. subnitens* and *S. papillosum*, with occasional *S. imbricatum*. The surface is very dry and hard, with Scots Pine encroaching.

APPENDIX V: NOTIFIABLE ACTIONS

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

- Notifiable Action 2.3 - Wet lowland grasslands
- Notifiable Action 4.1 - Raised bog, cutaway bog and bog woodland
- Notifiable Action 5.1 - Woodlands

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

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

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

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

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT Grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung Changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting Adding lime/adding fertiliser of any sort to areas not previously fertilised/ applying fertiliser which would increase the level of nitrogen in the soil/applying fertiliser which would increase the level of phosphorous in the soil/ applying phosphorous to soils which already have in excess of the REPS index 2 levels mowing grass before the 30th June (*Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply)* Burning of vegetation Reclamation, infilling, ploughing or land drainage/ reseeding, planting of trees or any other species use of any pesticide or herbicide Dumping, burning or storing any materials Alteration of the banks, bed or low of watercourses Operation of commercial recreation facilities (e.g. pony trekking)/introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area Any other activity of which notice may be given by the Minister from time to time	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities. removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments afforestation

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

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

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

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

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

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

Section A	Section B
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	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
Grazing of livestock/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
Adding lime/adding fertiliser of any sort	removal of soil, mud, gravel, sand or minerals
Creation of new tracks or paths	developing roads or car parks
Burning areas of vegetation reclamation, infilling, or ploughing /reseeding, planting of trees or any other species/cutting trees or removing timber	construction of fences, buildings or
Drainage works on the bog or within the local water catchment area	embankments
Cutting turf or peat moss extraction	afforestation
Use of any pesticide or herbicide, including sheep dip	erecting or operating a windfarm
Dumping, burning or storing any materials	
Alteration of the banks, bed or flow of watercourses	
Operation of commercial recreation facilities (e.g. botanical tours)	
Introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
Any other activity of which notice may be given by the Minister from time to time	

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

HABITAT TYPE 5.1

WOODLANDS

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

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

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

HABITAT TYPE 5.1

WOODLANDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT grazing by livestock adding lime adding fertiliser of any sort reclamation, infilling, ploughing or land drainage reseeding, planting of trees or any other species felling of trees, removal of timber removal of foliage, moss or other materials killing ivy use of any pesticide or herbicide dumping, burning or storing any materials alteration of the banks, bed or flow of watercourses operation of commercial recreation facilities (e.g. bird watching tours) introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area any other activity of which notice may be given by the Minister from time to time	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities. any activity which may cause pollution of the woodland removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments felling trees or reafforestation

In a very limited number of cases it may be necessary for the Minister for The Environment, Heritage and Local Government to restrict 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 VI: COMPENSATION AND APPEALS PROCEDURES

Compensation

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

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

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

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

Rural Environment Protection Scheme (REPS)

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

NPWS Farm Plan Scheme

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

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

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

Appeals Procedure

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

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

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

APPENDIX VII: NATIONAL PARKS AND WILDLIFE SERVICE MANAGEMENT STAFF

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Vacant

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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 CAOMHNAITHE

CANDIDATE SPECIAL AREA OF CONSERVATION

FERBANE BOG 000575
Version 1.00

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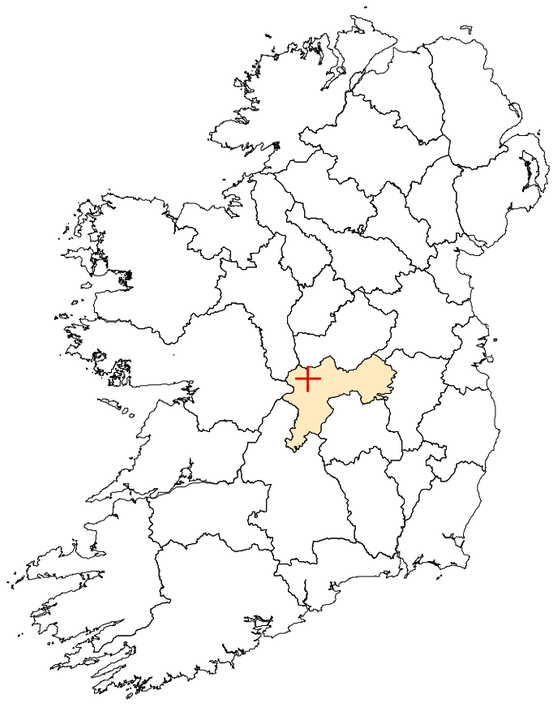
Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta.
Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe.
Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. 5953)



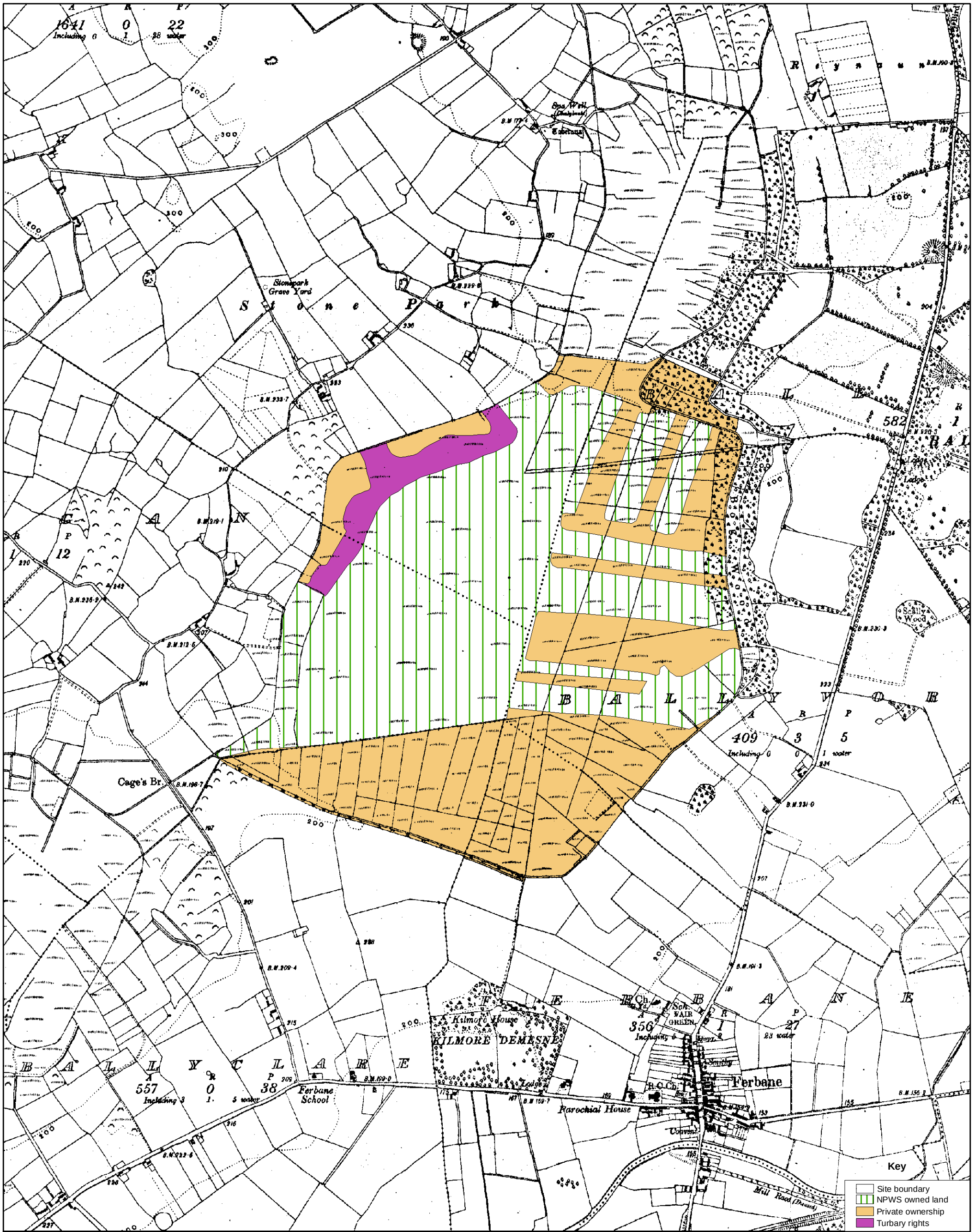
Map 1

LOCATION MAP: FERBANE BOG cSAC 000575

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

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

SCALE: 1: 10,000



AN ROINN COMHSHAOIL, OIDHREACHTA AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

CEANTAR SPEISIALTA CAOMHNAITHE

CANDIDATE SPECIAL AREA OF CONSERVATION

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FERBANE BOG
OF 6 " SHEET 014

0 85 170 340 M

Scale 1: 10,000

Map 2
OWNERSHIP MAP

Map to be read in conjunction with conservation plan.

SITE CODE
000575

Version 1.00

7120
7110
7110
7120
7120
7110
7120
7120

Key

- Raised bog - central ecotope (7110/7150)
- Raised bog - subcentral ecotope (7110/7150)
- Raised bog - marginal ecotope (7120)
- Cutover bog
- Mixed woodland
- Lowland wet grassland

AN ROINN COMHSHAOIL, OIDHREACHTA AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

CEANTAR SPEISIALTA CAOMHNAITHE

CANDIDATE SPECIAL AREA OF CONSERVATION

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FERBANE BOG
OF 6 " SHEET 014

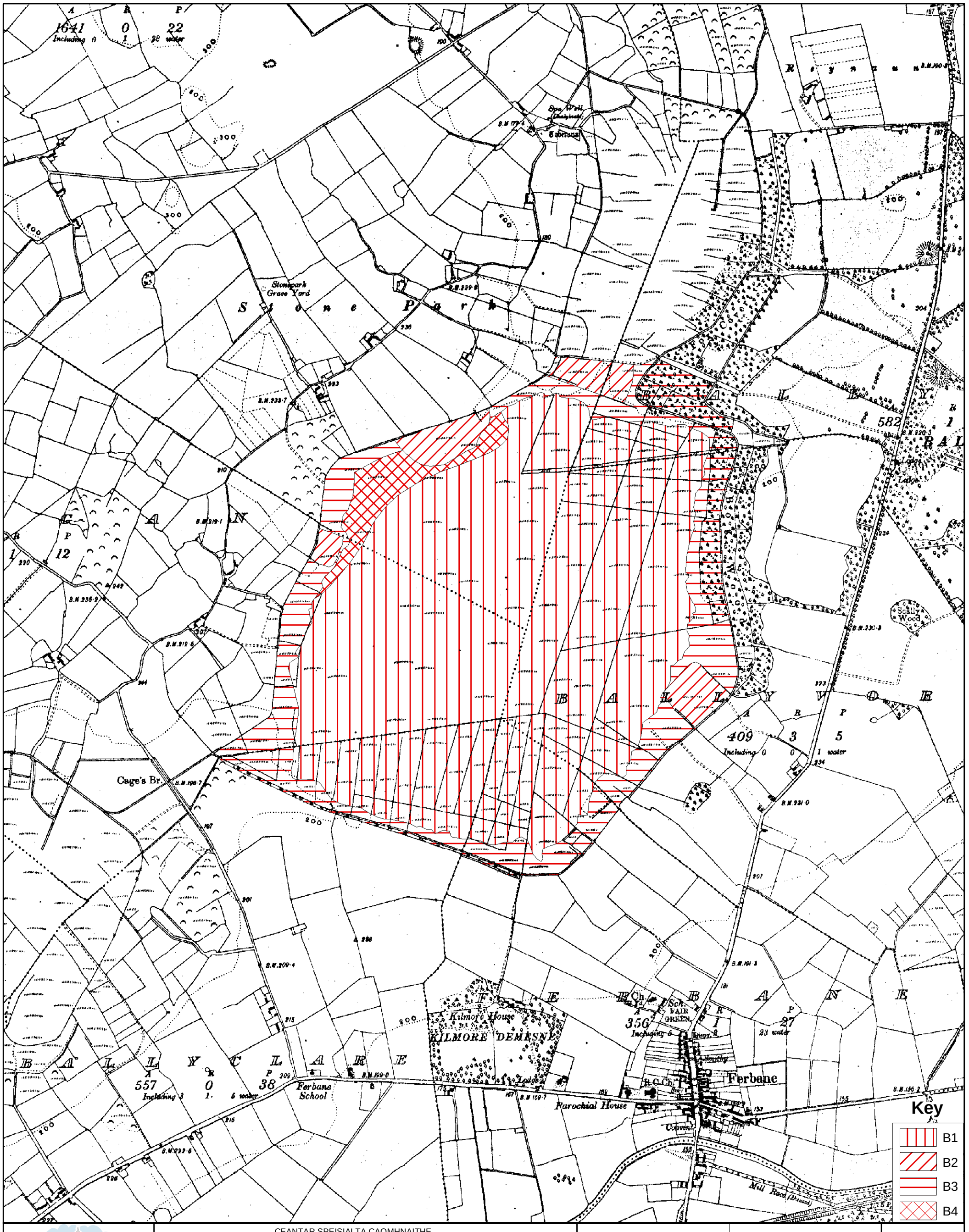
0 87.5 175 350 M

Scale 1: 10,000

Map 3
INDICATIVE HABITAT MAP

Map to be read in conjunction with conservation plan.

SITE CODE
000575
Version 1.00



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DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

CEANTAR SPEISIALTA CAOMHNAITHE

CANDIDATE SPECIAL AREA OF CONSERVATION

FERBANE BOG
OF 6 " SHEET 014

Map 4
MANAGEMENT ZONING MAP

Map to be read in conjunction with the conservation plan.

SITE CODE
000575

Version 1.00

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0 95 190 380 M

Scale 1: 10,000