



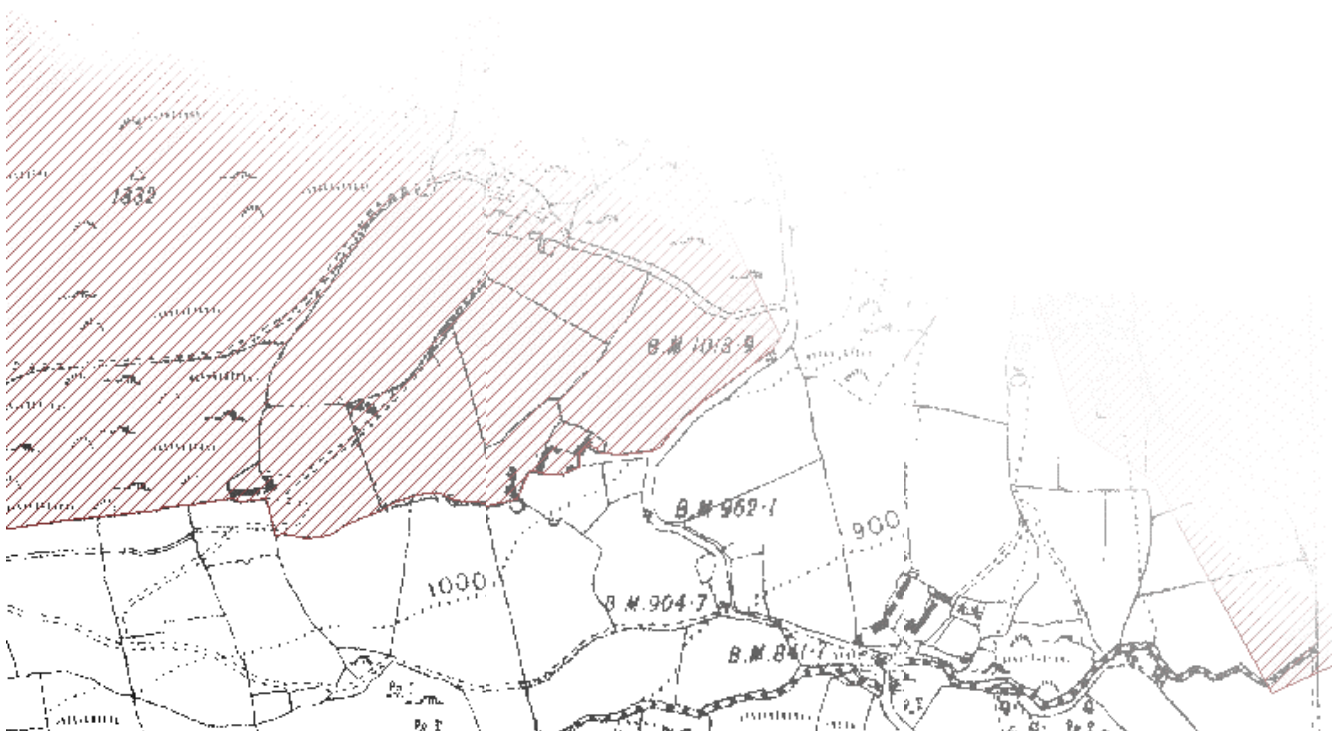
National Parks and Wildlife Service Conservation Plan for 2005-2010



Lisbigney Bog cSAC

Site Code 869

Co. Laois



SUMMARY

Introduction

Lisbigney Bog cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive for the presence of a priority habitat listed on Annex I of the Directive, calcareous fen with *Cladium mariscus* and species of the *Caricion davallianae*, and for the presence of a species listed on Annex II of the Directive, Desmoulins whorl snail *Vertigo moulinsiana*.

Description of Lisbigney Bog cSAC

Lisbigney Bog cSAC is situated approximately 5km north-east of Durrow, Co. Laois. This complex wetland site has developed from a valley raised bog, which was partially cut, and now supports a variety of wetland vegetation types on underlying bog peat. These include raised bog, cut-over bog, wet grassland, freshwater marsh, reed and large sedge swamp, wet willow-alder-ash woodland and scrub, in addition to the priority habitat, calcareous fen.

Calcareous fen occupies nearly one third of the site. Great Fen-sedge (*Cladium mariscus*) patches occur intermixed with other fen and reed swamp vegetation, which is typical of this species. The site represents 0.1% of the national total of calcareous fen with *Cladium mariscus*, but occurs in a region where fen habitat is scarce. At Lisbigney Bog, this habitat is threatened by drainage and burning.

The site supports a good population of the rare snail *Vertigo moulinsiana* in tall reeds and sedges within the calcareous fen. In Ireland, the species is sparsely distributed in the central lowlands, where it mostly occurs in calcareous wetlands, often fens. Lisbigney Bog is thought to support 2-15% of the national population of this species in typical habitat. Similar habitat in this part of the country is scarce and the population of *V. moulinsiana* this site supports is isolated from other known populations, providing a potential reservoir for re-colonisation of this area.

The Internationally Important Red Data Book species Common Frog and Badger occur on the site and are protected under the Wildlife Acts.

Parts of the site are grazed by cattle, sheep and horses; the remainder is unmanaged. Drainage ditches within the site have been cleaned recently, which promotes water loss from the site. The water table level is low – in the centre of the site it averages 1 metre below the peat surface. This is significantly below the requirements for Great Fen-sedge and other species of the calcareous fen, and may jeopardise the conservation of *Vertigo moulinsiana*, as it depends on specific habitat characteristics. Fires occur annually on the site; these may also have a negative impact on the fen vegetation and snail population.

Main conservation objectives

- To maintain the Annex I habitat for which the cSAC has been selected at favourable conservation status; *calcareous fen with Cladium mariscus and species of the Caricion davallianae* (30 % area of the site)
- To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; *Vertigo moulinsiana*
- To maintain other habitats at favourable conservation status; *wet grassland* (20% area of the site), *raised bog* (12%), *cut-over bog* (7%), *scrub* (5%), *reed and large sedge swamp* (3%), *wet willow-alder-ash woodland* (2%), *oak-birch-holly woodland* (2%), *conifer plantation* (2%), *drainage ditches* (1%), *freshwater marsh* (<1%) and *hedgerows* (<1%).
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Main management issues

- Access to site
- Adjacent agricultural activity
- Burning
- Damage from vehicles
- Drainage
- Dumping
- Forestry
- Grazing
- Management for *Vertigo moulinsiana*
- Scrub encroachment

Main strategies to achieve objectives

- Maintain and enhance water quality and quantity; investigate site hydrology
- Maintain sustainable grazing regime
- Minimise impact of fires
- Prevent further scrub encroachment
- Maintain habitats for, and monitor, notable species, particularly *V. moulinsiana*
- Liaise with interested parties and REPS planners

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Map 2: Indicative Habitat Map

Map 3: Management Zoning Map

READER'S GUIDE

The National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government (DEHLG) has produced this plan to provide ecological information about the site and to outline the main objectives for the conservation of the special features of the site. The purpose of this draft is to provide stakeholders the opportunity to input into the development of the plan.

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

The **Site Description** section contains **general information** on the site's boundaries and ownership and on the statutory bodies with responsibility for its conservation. It also contains sections on the **physical aspects** of the site such as the geology and hydrology as well as the **biological features**, in particular, the habitats and species found there. **Land use** and cultural features are also described.

The **Conservation Value** section assesses the main ecological attributes of the site.

The **Management Framework** section outlines the management necessary for the conservation of the site. It starts with a set of specific **conservation objectives**. These are followed by the main **management issues** that may impact on the conservation of the site and the **strategies** that are proposed to achieve the conservation objectives. In the final section, the site is divided into management **zones** to indicate where each strategy applies.

The appendices include a **glossary** where scientific and technical terms are explained, **reference material** consulted in the preparation of the plan and a list of **notifiable actions** relevant to each habitat within the site.

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

INTRODUCTION

Legal Background for Conservation Plans

The legal basis for selection and designation of **Special Areas of Conservation** (SACs) is the **EU Habitats Directive**, which was adopted in 1992. Focusing on the conservation of natural and 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 Lisbigney Bog cSAC

HABITATS LISTED IN ANNEX I OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
<ul style="list-style-type: none"> *Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> (EU Habitat Code 7210) 	Lisbigney Bog supports a small area of good quality calcareous fen with patches of Great Fen Sedge (<i>Cladium mariscus</i>), rendered more important due to the scarcity of fen vegetation in this region.

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

SPECIES LISTED IN ANNEX II OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
<ul style="list-style-type: none"> Desmoulins Whorl Snail (<i>Vertigo moulinsiana</i>) (EU code 1016) 	Lisbigney Bog supports a significant population of this rare species.

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

The site is situated approximately 5km north-east of Durrow, Co. Laois and 3km south-west of Ballinakill. (see Map 1).

Grid Ref.: S 4479

Latitude: N 52° 51' 30"

Longitude: W 07° 20' 00"

Area: 38 ha

Altitude Range: 97 m to 103 m

Townlands: Lisbigney, Gurraun and Rosconnell Glebe

Site Boundaries & Infrastructure

The site's southern boundary is a minor road. Other site boundaries generally fall along field boundaries and drainage ditches.

There are no buildings within the cSAC. A farm track runs across the north and west of the site.

Legal Status

Ownership

The site is held in multiple private ownership.

Designations of the Site

candidate Special Area of Conservation	Sitecode IE0000869	Published on 01/07/1999
proposed Natural Heritage Area	Sitecode 0869	Unpublished

Past Status and Designation of the Site

The site was previously listed as an Area of Scientific Interest in 1973.

Rights Pertaining to the Site

Shooting rights

Shooting rights on the site are owned by the landowners. The Ballinakill & Ballyouskill Gunclub, who use the site with the permission of the landowners, maintain the site as a sanctuary.

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).

Laois County Council

Laois 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

Laois County Council, in its most recent Development Plan (2000-2005), states that:

"It is an objective of the Council to safeguard the natural heritage areas listed in Schedule A.."

Schedule A includes Lisbigney Bog. No policy is stated with regard to SACs.

Physical Features

Climate

The closest synoptic meteorological station to Lisbigney Bog is at Birr, Co. Offaly. This region receives an average of 804 mm rainfall per annum. The annual mean daily air temperature is 9.3 °C and the area receives approximately 1215 hours of bright sunshine on average annually. More detailed climate data is included in Appendix III.

Geology & Soils

The underlying rock is Upper Limestone or Cullahill Limestone (an aquifer) overlain by alluvium (Feehan 1983). It appears that some of the centre of this former lake basin was once raised bog, and an area of high bog peat remains uncut. Secondary fen has developed on the cutover areas of the

bog, and deep peat cuttings remain on the site. Hence, while fen peat is now developing in some areas, the majority of the site lies on black bog peat.

Hydrology & Water Quality

The site is presumed to be a former lake basin, now infilled. Many drainage ditches cross this area, effectively draining the area. No hydrological study of the site has been carried out.

Biological Features

Habitats and Vegetation

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

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

Habitats Found within Lisbigney Bog cSAC

ANNEX I HABITAT TYPE	HABITAT CATEGORY	% AREA
*Calcareous fen with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> (EU code 7210)	Rich fen and flush (PF1)	30%
	Wet grassland (GS4)	20%
	Improved agricultural grassland (GA1)	15%
	Raised bog (PB1)	12%
	Cut-over bog (PB4)	7%
	Scrub (WS1)	5%
	Reed and large-sedge swamp (FS1)	3%
	Wet willow-alder-ash woodland (WN6)	2%
	Oak-birch-holly woodland (WN1)	2%
	Conifer plantation (WD4)	2%
	Drainage ditches (FW4)	1%
	Freshwater marsh (GM1)	<1%
	Hedgerow (WL1)	<1%

Annex I Habitat:

***Calcareous fen with *Cladium mariscus* and species of the *Caricion davallianae* (EU code 7210)** (30% of total site area or 11.4ha)

Calcareous fen is the principal habitat at Lisbigney Bog. It supports occasional patches of Great Fen-sedge (*Cladium mariscus*), covering less than 1 ha in the south of the site as small stands intermixed with other fen vegetation, particularly Common Reed (*Phragmites australis*). The fen vegetation is diverse, supporting a range of sedges including Greater Tussock-sedge (*Carex paniculata*) and Tufted Sedge (*C. elata*), as well as Purple Moor-grass (*Molinia caerulea*), Black Bog Rush (*Schoenus nigricans*), Cuckooflower (*Cardamine pratensis*), Common Valerian (*Valeriana officinale*), Wild Angelica (*Angelica sylvestris*), Willowherb (*Epilobium* sp.), Water Horsetail (*Equisetum fluviatile*), Marsh Cinquefoil (*Potentilla palustris*), Marsh Marigold (*Caltha palustris*), Purple Loosestrife (*Lythrum salicaria*), Burnet Saxifrage (*Pimpinella saxifraga*), Devil's-bit Scabious (*Succisa pratensis*), Yorkshire Fog (*Holcus lanatus*), Meadowsweet (*Filipendula ulmaria*), Meadow Thistle (*Cirsium dissectum*), Lesser Spearwort (*Ranunculus flammula*) and Bog Myrtle (*Myrcia gale*). There is dense leaf litter and abundant moss cover, producing hummocks in the wetter areas. The areas of fen to the west of the reed swamp and in the south of the site tend to be wetter than those in the centre, close to drainage ditches.

Common Reed occurs as a canopy of varying density over much of the fen vegetation. Reedmace (*Typha latifolia*) occurs occasionally. Drier areas have a high density of Purple Moor-grass, with few other species.

The fen is gradually being encroached by Birch (*Betula* sp.), Gorse (*Ulex europaeus*) and Willow (*Salix* sp.) scrub. There are several mature Scots Pine trees (*Pinus sylvestris*) on the fen. A small stand of woodland, including several Oaks (*Quercus robur*) with epiphytic ferns, occurs near the western boundary.

Several areas of the fen appear "green" due to a lack of leaf litter buildup (due to absence of Purple Moor-grass) and the presence of grassland species such as Red Fescue (*Festuca rubra*), Marsh Thistle (*Cirsium palustre*), Creeping Buttercup (*Ranunculus repens*), Perennial Rye-grass (*Lolium perenne*), Spear Thistle (*Cirsium vulgare*), Dandelion (*Taraxacum officinale*) and Yorkshire Fog together with small sedges (*Carex* sp.) and fenland herbs.

Other Habitats:

- Wet grassland (GS4)** Wet grassland occurs around the edges of the site. Purple Moor-grass forms a low sward mixed with Jointed Rush (*Juncus articulatus*), Yorkshire Fog, Creeping Bent (*Agrostis stolonifera*), Cocksfoot (*Dactylis glomerata*), Sweet Vernal Grass (*Anthoxanthum odoratum*), sedges (including *Carex panicea* and *C. hirta*), Field Wood-rush (*Luzula campestris*) and occasional clumps of Hard Rush, Soft Rush and Compact Rush (*Juncus inflexus*, *J. effusus*, *J. conglomeratus*). Herbs of wet and dry grassland are present including Meadowsweet, Marsh Thistle, Cuckooflower, Dandelion, Lesser Spearwort, Devil's bit Scabious, Creeping Buttercup, Curled Dock (*Rumex crispus*), Self-heal (*Prunella vulgaris*), Ribwort Plantain (*Plantago lanceolata*), Meadow Vetchling (*Lathyrus pratensis*), Common Cat's ear (*Hypochaeris radicata*), Creeping Cinquefoil (*Potentilla reptans*) and Common Sorrel (*Rumex acetosa*). Wetter areas support Flote-grass (*Glyceria fluitans*) and Brooklime (*Veronica beccabunga*).
- Some areas of wet grassland support agricultural species including Perennial Rye-grass, White Clover (*Trifolium repens*) and Nettle (*Urtica dioica*). Scrub is encroaching on some areas of grassland.
- Improved agricultural grassland (GA1)** There are areas of improved grassland on the dryer areas of the site. The sward tends to become more diverse as the grassland gets wetter, gradually forming wet grassland. Typical species include Perennial Rye-grass, White Clover, Daisy (*Bellis perennis*), Nettle, Creeping Thistle (*Cirsium arvense*), Common Mouse-ear (*Cerastium fontanum*) and Spear Thistle with Soft Rush occurring in wetter areas.
- Raised bog (PB1)** A section of dry and inactive raised bog, with at least 1.5m peat above water table level, occurs in the north of the site. The vegetation is principally Heather (*Calluna vulgaris*), with Purple Moor-grass, Bog Myrtle and Birch saplings. Gorse covers a significant proportion of the area, which is separated from the rest of the site by deep drainage ditches. In the north and east of the bog, there are large areas of dry bare peat, colonised with Common Cotton-grass (*Eriophorum angustifolium*), Sheep's Sorrel (*Rumex acetosella*) and Lousewort (*Pedicularis sylvatica*). There are occasional hummocks of bog moss (*Sphagnum* sp.) in hollows.
- Cutover bog (PB4)** To the north of the calcareous fen lies an area where peat cuttings are still visible as a mosaic of heath and wet fen vegetation. Here, the peat has not all been reduced to the same level as the fen, but supports dense Purple Moor-grass, Bog Myrtle, Gorse, Heather and occasional Cross-leaved Heath (*Erica tetralix*) on the dry raised banks. Heath Wood-rush (*Luzula multiflora*), Common Cotton-grass, Devil's-bit Scabious, Bog Asphodel (*Narthecium ossifragum*), Tormantil (*Potentilla erecta*), Heath Milkwort (*Polygala serpyllifolia*), small sedges, Birch saplings and mosses also occur here on dry compacted peat.
- The cuttings are wetter, supporting typical fen species including Valerian, Angelica, Meadowsweet and Black Bog Rush. The water level is approximately 1 m below the uncut peat surface.

Scrub (WS1)	<p>Scrub patches exist across the site. Areas of wet grassland and fen support occasional shrubs and trees too widely spaced to form a canopy. Birch is the principle species, together with Gorse, Willows, Hawthorn (<i>Crataegus monogyna</i>), and Alder (<i>Alnus glutinosa</i>). Scots Pine is occasional. Bramble (<i>Rubus fruticosus</i> agg.) covers large areas, particularly on lines of dredging spoil. Traveller's-joy (<i>Clematis vitalba</i>) envelops scrub close to the main drain. Ground flora is similar to the surrounding vegetation. Small areas of dense Bracken (<i>Pteridium aquilinum</i>) occur in association with scrub across the site.</p> <p>Scrub cover has increased significantly since 2000.</p>
Reed and large sedge swamp (FS1)	<p>There is a dense stand of Common Reed in the south-west of the site, separating two areas of fen. The reeds grow as a single species stand, with occasional Water Mint (<i>Mentha aquatica</i>). abundant Marsh Cinquefoil and a variety of bryophyte species, including <i>Marchantia polymorpha</i>, <i>Calliergon giganteum</i> and <i>Bryum pseudotriquetrum</i>.</p>
Wet willow-alder-ash woodland (WN6)	<p>Several stands of wet willow woodland occur across the site. Willows are dominant, with occasional Alder, some of which has previously been coppiced. Ground flora includes Ivy (<i>Hedera helix</i>), Bramble, Nettle, Greater Tussock-sedge, Meadowsweet, Marsh Marigold, Cleavers (<i>Galium aparine</i>), Bush Vetch (<i>Vicia sepium</i>) and Honeysuckle (<i>Lonicera periclymenum</i>).</p>
Oak-birch-holly woodland (WN1)	<p>Small areas of deciduous woodland have developed where Birch scrub has become sufficiently established to form a canopy. Birch dominates while Oak, Holly (<i>Ilex aquifolium</i>), Elder (<i>Sambucus nigra</i>) and Willows are occasional. Hawthorn and Gorse form a patchy understorey. The field layer is sparse, with Honeysuckle, Bramble, bare peat and leaf litter. Scaly Male Fern (<i>Dryopteris affinis</i>) and Lady Fern (<i>Athyrium filix-femina</i>) grow on old stumps. Livestock use wooded areas for shelter.</p>
Conifer plantation (WD4)	<p>Part of the raised bog was planted with conifers 10-15 years ago. These trees are stunted (mostly <2m) and being encroached upon by Gorse and Heather.</p>
Drainage ditch (FW4)	<p>The drainage ditches crossing the site are deep with still or slow-flowing water. Frequent species include Bottle Sedge (<i>Carex rostrata</i>), Mare's-tail (<i>Hippuris vulgaris</i>), Common Reed, Reedmace, Tufted Sedge, Pondweed (<i>Potamogeton</i> sp.) and Water Starwort (<i>Callitriche</i> sp.). Similar species are found in flooded peat cuttings on the western edge of the reed swamp. Ditches draining onto site support dense Watercress (<i>Rorippa nasturtium-aquaticum</i> agg.) and Brooklime. Old shallow ditches with little standing water contain Bog-bean (<i>Menyanthes trifoliata</i>), Water Mint, fen herbs and small sedges.</p> <p>The banks of drainage ditches and cuttings are typically drier than the surrounding vegetation, supporting Heather, Purple Moor-grass and scrub species.</p>
Freshwater Marsh (GM1)	<p>There is a small area of freshwater marsh adjacent to fen vegetation in the centre of the site. The vegetation is dominated by herbs, principally Marsh Marigold, Water Mint, Valerian, Cuckooflower, Bog-bean, Meadowsweet, Marsh Cinquefoil, Wild Angelica, Marsh Bedstraw (<i>Galium palustre</i>), Lesser Spearwort, Devil's-bit Scabious and Marsh Pennywort (<i>Hydrocotyle vulgaris</i>). Sedges, including Greater Tussock-sedge, Hard Rush and Creeping Bent are also present.</p>

Hedgerows (WL1)

Hedgerows form many field boundaries on the site. Most of these have been planted, although a few seem to be remnants of more extensive scrub. Typical species include Willows, Hawthorn, Blackthorn (*Prunus spinosa*), Alder, Holly, Birch, Gorse and Bramble. Several hedges support standard Oak, Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*) and Sycamore (*Acer pseudoplatanus*). Ground flora includes docks (*Rumex* sp.) and Primroses (*Primula vulgaris*).

Hedges are frequently gappy and stockproofed with fencing (electric or post and wire) or corrugated metal panels.

Notable Flora:**Higher Plants**

A full list of vascular plants recorded from the site in 2004 can be found in Appendix IV.

Fauna:**Invertebrates**

The reed and large sedge swamp supports a relict population of the Annex II snail species *Vertigo moulisiana*. The population is likely to migrate to the *calcareous fen in dryer conditions (E Moorkens, *pers comm*). There are no previous molluscan records for this site. The population size at this site has not been determined, but is estimated at 2-15% of the national population (Moorkens, 1998).

During the 1998 survey, 15 other molluscan species were recorded at the site, mainly from the reed swamp and fen, although 2 species were recorded from raised/cutover bog habitat to the north of the site.

Species	Reed swamp	Fen	Bog
<i>Carychium minimum</i>	X	X	
<i>Carychium tridentatum</i>		X	
<i>Lymnaea truncatula</i>	X	X	
<i>Oxyloma pfeifferi</i>	X	X	
<i>Cochlicopa lubrica</i>		X	
<i>Cochlicopa lubricella</i>			
<i>Columella edentula</i>			
<i>Columella aspersa</i>		X	
<i>Vertigo antvertigo</i>	X	X	
<i>Nesovitrea hammonis</i>		X	
<i>Zonitoides nitidus</i>		X	
<i>Euconulus alderi</i>	X	X	
<i>Clausilia bidentata</i>			X
<i>Cepea nemoralis</i>			X
<i>Pisidium personatum</i>	X	X	

Amphibians and Reptiles

The Internationally Important Red Data Book species Common Frog (*Rana temporaria*) is abundant on the site. This species is protected within Ireland by the Wildlife Acts.

Birds

Birdlife recorded from the site includes Grey Heron (*Ardea cinerea*), Mallard (*Anas platyrhynchos*), Teal (*Anas crecca*), Peregrine Falcon (*Falco peregrinus*), Snipe (*Gallinago gallinago*), Long-eared Owl (*Asio otus*), Blackcap (*Sylvia atricapilla*), Grasshopper Warbler (*Locustella naevia*) and Jay (*Garrulus glandarius*). While Peregrine Falcon is listed on Annex I of the Birds Directive, it only utilises the site occasionally. The site provides potentially good habitat for waders.

Mammals

Badgers (*Meles meles*), a protected species listed as Internationally Important in the Irish Red Data Book, utilise the site. Fox (*Vulpes vulpes*) and Rabbit (*Oryctolagus cuniculus*) are also present.

Land Use

Land use on the site

Agriculture	<p>The site is currently subject to year-round grazing by sheep, cattle and horses. Typically 30 sheep, 8-10 cattle and 2 horses are present on site, but numbers are variable, with higher stocking rates in winter.</p> <p>Supplementary feeding occurs on the edge of the raised bog area.</p> <p>Some of the more improved fields on site receive either artificial fertiliser or slurry.</p>
Drainage	<p>The site is crossed by drainage ditches and may be losing water. The main drains on the site were deepened in 1989 and 1999 to help drain adjacent land. Drains in the north-west of the site were cleaned recently (2003/4), and may have been deepened. Field drains have recently been put into areas of wet grassland. Water levels in drains are at least 1 m below the peat surface; a drain on the eastern boundary is much deeper (2m). Significantly, this water level is 30cm below the growth of terrestrial vegetation, suggesting recent water loss.</p>
Burning	<p>Burning occurs on site annually, usually in April or May when higher water levels ensure that not all vegetation burns. The area affected varies between years.</p>
Forestry	<p>Part of the remaining raised bog was planted with conifers 10-15 years ago. These trees are stunted and being encroached by Gorse.</p>

Land use adjacent to the site

Forestry	Conifer and Ash Plantations occur adjacent to the north-east of the site. Surface water drains from the forest into ditches that cross the site and may have a negative impact on the site.
Agriculture	Most of the land adjacent to the site is under agricultural management, which includes grazing and applications of artificial fertiliser to improved grassland, as well as drainage.

Past human use

A large portion of the raised bog was cut, presumably for domestic use. Peat cuttings are still visible across the site south of the remaining section of raised bog. Drainage of the cut areas would have facilitated rough grazing.

Recorded Monuments and Other Features

No monuments are recorded for this site.

CONSERVATION VALUE OF LISBIGNEY BOG cSAC

Lisbigney Bog cSAC has been designated for the presence of a small area of *calcareous fen with *Cladium mariscus* and species of the *Caricion davallianae*, which is listed as a priority habitat on Annex I of the EU Habitats Directive; and for the presence of a species listed on Annex II of the EU Habitats Directive, Desmoulins whorl snail *Vertigo moulisiana*.

While the calcareous fen occupies nearly one third of the site, *Cladium mariscus* patches are scarce and occur intermixed with other fen and reed swamp vegetation. The site represents 0.1% of the national total of *Cladium* fen, but occurs in a region where such habitat is scarce. It appears to have a typical structure for the habitat, which normally occurs in association with other swamp and fen wetland habitats. Overall structure and area has probably been affected by gradual drying out, and there is little understanding of the site's hydrology. Illegal burning is also a threat to the vegetation.

A good population of the rare snail *V. moulisiana* was recorded at the site in 1998. This species is a glacial relict with a disjunct European population that is considered to be vulnerable due to loss of habitat, in particular, drainage of wetlands. For this reason it is listed on Annex II of the EU Habitats Directive. In Ireland, the species is sparsely distributed in the central lowlands, where it mostly occurs in calcareous wetlands, often fens. Lisbigney Bog is thought to support 2-15% of the national population of this species in typical habitat. This species is genuinely rare but may be underrecorded. Similar habitat in this part of the country is scarce and the population of Desmoulins whorl snail this site supports is isolated from other known populations, providing a potential reservoir for re-colonisation of this area. All recently surveyed sites with confirmed populations of this species are considered important.

The Internationally Important Red Data Book species Common Frog and Badger are known to occur on the site. These species are protected under the Wildlife Acts.

This relatively small and diverse wetland site has been subject to human influence, both formerly and currently. However, it represents an important habitat in an area of the country where such habitat is rare, and thus provides a natural refuge from the agricultural landscape around it.

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 priority Annex I habitat for which the cSAC has been selected at favourable conservation status; **calcareous fen with Cladium mariscus and species of the Caricion davallianae* (30 % area of the site)
- Objective 2:** To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; *Vertigo moulinsiana*
- Objective 3:** To maintain other habitats at favourable conservation status; *wet grassland* (20% area of the site), *raised bog* (12%), *cut-over bog* (7%), *scrub* (5%), *reed and large sedge swamp* (3%), *wet willow-alder-ash woodland* (2%), *oak-birch-holly woodland* (2%), *conifer plantation* (2%), *drainage ditches* (1%), *freshwater marsh* (<1%), *hedgerows* (<1%) and *dense bracken* (<1%).
- Objective 4:** To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Management Issues

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

- **Access to site**
- **Adjacent agricultural activity**
- **Burning**
- **Damage from vehicles**
- **Drainage**
- **Dumping**
- **Forestry**
- **Grazing**
- **Management for *Vertigo moulinsiana***
- **Scrub encroachment**

Access to site

Not all of the site is accessible to either livestock or humans. In particular the deep water of the reed swamp and drainage ditches prevents crossing, so that parts of the centre and west of the site are ungrazed. This is useful, as part of the site remains relatively undisturbed. Equally it means that the site is difficult to monitor or survey.

Adjacent agricultural activity

The site is surrounded by intensively managed farmland. Water drains from these areas into the site, so any fertilisers, herbicides or pesticides used on the farms may be washed into the site and negatively affect the vegetation therein. Principal effects would include eutrophication of the water, which tends to favour some plant species over others and reduces diversity on site in the long term. Herbicides and particularly pesticides could directly affect the vegetation and the rare snail, *Vertigo moulinsiana*, that occurs on tall vegetation in the site.

Burning

Illegal burning occurs on the site, and if severe can damage vegetation. This situation can be mitigated by consultation with surrounding landowners and by raising water levels on site. The site seems to recover quickly from such incidents, although the removal of leaf litter may be providing germination sites for both agricultural species and scrub, as well as drying and increasing nutrient levels on the site. Leaf litter is also the over-wintering site of the rare snail, *V. moulinsiana*, and burning may impact on the population of this species at Lisbigney Bog. Fire, particularly annual burning, is reported to have a negative impact on Great Fen-sedge (Conway, 1942) and therefore on the priority habitat that the site was selected for.

Damage from vehicles

Damage caused by the passage of heavy vehicles across wet grassland has been recorded from the north-west of the site, adjacent to the recently constructed field drains.

Drainage

The site is principally threatened by drainage, with a network of effective deep drainage ditches crossing the site. The site appears to be drying out, with water levels in the drainage ditches at least 1 m below the surface of the peat. This is too low to support Great Fen-sedge and the snail *V. moulinsiana*, for which the site was designated, in the long-term (Conway, 1942). The main drain in particular has a strong flow on it close to the southern boundary where the Ballinakill Road crosses the main drain. Critical waters are lost via this drain and it will be necessary to control the rate of water flow under the low bridge here. Additionally, encroachment by Birch scrub and the presence of agricultural species in the fen suggests that the site has been drying for some time and that this trend is continuing. However, little is known about the hydrology of the site.

Critically, several drainage ditches on the site have been cleaned and possibly deepened in the last year, these actions are subject to Notifiable Actions (see Appendix V). Drain clearance allows water to move across and from the site more quickly, and allows the site to accommodate a greater throughput of water, without this being retained on the site. Each ditch that is deepened also lowers the water table on the site, further drying the fen.

Past damage could be repaired by controlling water levels on site, which could mitigate against severe fires. To prevent raised water levels affecting adjacent farmland, water levels could be managed seasonally to prevent summer drought, but allowing excessive water to leave the site in the winter. An investigation of the site's hydrology is urgently required. No further drainage or drain cleaning should be allowed while the site's water status is being investigated.

Dumping

Dumping onto site occurs principally along the Ballinakill Road to the south of the site, and into the Birch scrub on the north of the raised bog. Some dumping of black plastic silage wrapping and brash occurs near farm buildings.

Forestry

The small area of conifer plantation on the raised bog is not having an immediate impact on the site. However if the presence of trees increases evapo-transpiration from the bog, this will further dry the bog and surrounding area. The plantations on the north-east boundary of the site may affect water quality on the site if fertilisers are applied to the area, although the run-off is carried swiftly off-site in a deep drainage ditch. This ditch also drains much of the eastern side of the site very efficiently, and may be affecting the water-table across the site.

Grazing

Grazing does not occur across the site, being confined to certain areas by drainage ditches and the deep water of the reed swamp. Generally grazing is fairly benign, having little influence on the vegetation structure; however trampling damage occurs in a few wet areas. In the south-east corner of the fen, the drier substrate encourages sheep to gather, trampling vegetation and damaging sedge tussocks. In addition, there are issues of nutrient enrichment from dunging as evidenced by the presence of agricultural herbs and grasses which show up as green areas on the 2000 aerial photo.

Grazing horses on the western portion of the raised bog cause a widespread poaching of soil, dunging and peat erosion due to the intensive grazing pressure in this area. There is little suitable forage in this area and over-grazing is producing large areas of bare dry peat, which is then eroding due to trampling pressure. Supplementary feed is provided in this area, which only compounds the erosion problem.

Access to further areas of the site, e.g. by bridging drainage ditches where access is not currently possible, will open previously undisturbed areas of the site up to grazing pressure. Access bridges to facilitate stock welfare where access is already possible are not likely to have a further negative

effect on the site. Most of the landowners are not in REPS; changes to grazing regimes may be facilitated by a DEHLG farm plan.

Management of *Vertigo moulinsiana*

The significant population of the snail *V. moulinsiana* is a qualifying interest for the site and maintenance of its favourable conservation status is vital. It “*lives on both living and dead stems and leaves of tall plants including Great Fen-sedge [Tussock Sedge, Tufted Sedge] and Common Reed, where the water-table is at or above the ground surface for much of the year and any seasonal flooding is of very low amplification*” (description taken from Speight *et al.* 2003). The principal challenge to the species continued existence at Lisbigney Bog is the low water levels observed during a site visit in April 2004. The minimum water level required by *V. moulinsiana* populations in the UK is 12-40cm below the ground surface, but optimal conditions would be much wetter (Tattersfield & McInnes 2003). This issue needs to be addressed immediately. Any attempt to increase water levels must be gradual to allow the snail population to adapt.

V. moulinsiana is also thought to be highly sensitive to regular mowing, grazing or trampling, although it seems unlikely that the sheep currently grazing the fen are impacting on the tall vegetation the snail prefers. However, a layer of leaf litter is required for the snail to over-winter in, and this is threatened on parts of the site by annual fires. Burning vegetation is a Notifiable Action, and may cause considerable damage to the vegetation.. Increasing eutrophication of the site due to agricultural run-off is also likely to be prejudicial to the snail’s survival. Further survey work, coupled with regular monitoring, is essential for understanding the snail’s population size, location and response to management actions.

The extent of the population on Lisbigney Bog is unknown and should be confirmed by survey and regular monitoring.

Scrub encroachment

Silver Birch scrub is encroaching onto large areas of the fen, probably due to falling water levels removing waterlogging as a limiting factor. As trees and shrubs increase water loss from wetlands due to increased evapo-transpiration, this will lead to further drying of the site and scrub encroachment.

The simplest method of removing scrub is to raise water levels on the site, to waterlog the tree rootzone. The resulting dead trees can remain on site as deadwood habitat for birds and invertebrates. Scrub is principally encouraged by low water levels during the growing season. If water levels were slightly raised by preventing water draining from site during the summer only, there should be little impact on the improved grassland around the fen (see Drainage section). Alternative approaches to scrub clearance would primarily rest on scrub clearance by hand, as heavy machinery would damage the vegetation and peat on the site. Burning does not appear to be preventing scrub encroachment, as large advances in scrub between the 2000 aerial photograph and a site visit in 2004, despite annual burning, would attest. Indeed burning may encourage scrub encroachment by removing leaf litter and providing sites for seeds to germinate, as well as drying the peat.

Some scrub, particularly along drainage ditches, has been cleared by landowners to allow access to the ditch. The brash has been dumped on the site, affecting the surrounding vegetation. If scrub is cut on site, it should be removed from site and disposed of in an appropriate and sustainable manner. However, retaining a little dead wood on the site, particularly from the larger trees, provides micro habitats for invertebrates.

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.
- enforcement of other relevant legislation such as the Water Framework Directive.

Establish a monitoring regime

The monitoring regime for the site will comprise:

Water quality monitoring

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

NPWS will liaise with the EPA, the local authorities and other relevant statutory agencies and research organisations to:

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

Scientific monitoring

Monitoring of the conservation status of the *calcareous fen with *Cladium mariscus* and species of the *Caricion davallianae* and the population of *Vertigo moulinsiana* 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 Lisbigney 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 *calcareous fen, reed and large sedge swamp, grazing levels and water-table level 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, grazing of livestock above a sustainable density and reclamation, infilling, ploughing or land drainage within 50m of a fen are all Notifiable Actions relevant to this site.

Specific Strategies

Objective 1.

To maintain the priority Annex I habitat for which the cSAC has been selected at favourable conservation status; **calcareous fen with Cladium mariscus and species of the Caricion davallianae* (30 % area of the site)

Strategies:

- | | |
|--|--|
| <p>1.1. Maintain water quality and quantity</p> | <p>The favourable conservation status of the *calcareous fen depends on site hydrology. Water quality will be maintained using the General Strategy for water quality monitoring (see above).</p> <p>NPWS will liaise with landowners to ensure that they are aware of actions which may damage the site, particularly regarding drainage and other actions likely to destabilise the local water table. Any drainage or other land reclamation activity is a Notifiable Action.</p> <p>NPWS will seek to ensure the sustainable use of fertilisers and other agro-chemicals via REPS and DEHLG farm plans for land within the catchment. Use of fertilisers, lime, herbicides and pesticides within the site is a Notifiable Action.</p> <p>NPWS will encourage landowners within the catchment of the site to enter their farms into REPS.</p> |
| <p>1.2. Investigate site hydrology</p> | <p>NPWS will seek to commission an investigation of water-table levels across the site, subject to available resources. This information will guide management of the site's water resources.</p> |
| <p>1.3. Enhance water levels</p> | <p>NPWS will liaise with landowners to reduce water loss from the site through drainage ditches, particularly during the summer months, where this is indicated by investigation (see Strategy 1.2). Sudden changes in water level should be avoided to protect <i>V. moulinsiana</i>.</p> |
| <p>1.4. Minimise impact of fires</p> | <p>Un-controlled burning is not desirable and can damage large areas of fen vegetation. The burning of areas of vegetation is a Notifiable Action and is illegal between 1st March and 31st August under the Wildlife Acts. Strategies to increase water levels on the site (1.1, 1.3) and liaise with local landowners (4.1) will reduce the chances of un-controlled burns. A strategy will be drawn up to minimise the impacts of future fires.</p> |
| <p>1.5. Prevent further scrub encroachment</p> | <p>NPWS will seek to ensure that scrub encroachment is effectively controlled via REPS and DEHLG farm plans. Strategies to maintain and increase the water levels on site (see Strategies 1.1-1.3) should prevent further scrub encroachment onto the site. Until raised water levels are in place, some hand removal of tree saplings will be necessary to prevent scrub cover increasing. If scrub removal occurs, the brash should be removed from the site and disposed of responsibly.</p> |
| <p>1.6. Maintain sustainable grazing regime</p> | <p>NPWS will seek to ensure that sustainable grazing levels are established via REPS and DEHLG farm plans.</p> <p>Supplementary feeding on the site is a Notifiable Action. Supplementary feeding should be phased out and, if possible, grazing pressure removed to allow this area to recover.</p> |

Objective 2.

To maintain the Annex II species for which the cSAC has been selected at favourable conservation status; *Vertigo moulinsiana*

Strategies:

- | | |
|--|---|
| 2.1. Maintain habitats of <i>V. moulinsiana</i> | Strategies to protect and maintain the *calcareous fen and reed swamp habitats of this species (see Strategies 1.1-1.6) will contribute to the maintenance of the <i>V. moulinsiana</i> population on the site. Water table stability is vital for this species; any rapid changes in water level could adversely affect the population on site. |
| 2.2. Minimise exposure to pesticides | Very strong, broadspectrum anti-parasitic drugs, such as Ivermectin, are excreted in the dung of grazing livestock. Such pesticide residues could affect <i>V. moulinsiana</i> directly or via run-off into water. Grazing stock on the site within 1 week of treatment is a Notifiable Action. Pour-on or injectable forms may be used if necessary. |

Objective 3.

To maintain other habitats at favourable conservation status; *wet grassland* (20% area of the site), *raised bog* (12%), *cut-over bog* (7%), *scrub* (5%), *reed and large sedge swamp* (3%), *wet willow-alder-ash woodland* (2%), *oak-birch-holly woodland* (2%), *conifer plantation* (2%), *drainage ditches* (1%), *freshwater marsh* (<1%) and *hedgerows* (<1%).

Strategies:

- | | |
|---|--|
| 3.1. Maintain water quality and quantity | See Strategy 1.1-1.3. for maintenance of the wet grassland, reed and large sedge swamp, wet willow-alder-ash woodland, drainage ditches and freshwater marsh. |
| 3.2. Maintain sustainable grazing regime | See Strategy 1.6 for maintenance of the wet grassland, improved agricultural grassland, raised bog, cut-over bog, and wet willow-alder-ash woodland. |
| 3.3. Minimise impact of fires | See Strategy 1.4 for maintenance of the cut-over bog, reed and large sedge swamp and wet willow-alder-ash woodland. |
| 3.4. Prevent further scrub encroachment | See Strategy 1.5. for scrub occurring on *calcareous fen, cut-over bog wet grassland and freshwater marsh. No action should be taken regarding scrub on the raised bog. |
| 3.5. Minimise dumping | NPWS will liaise with Laois County Council and landowners to increase awareness of responsible methods of rubbish disposal and will alert the Council to incidences of dumping within the cSAC. |
| 3.6. Manage scrub and oak woodland by non-intervention | The existing scrub and oak-birch-holly woodland do not require management to maintain their conservation value. However, these areas will not be permitted to expand (see Strategy 3.4). If water levels on site are enhanced, some scrub areas may revert to open fen vegetation. |

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, relevant authorities and interested parties on achieving the objectives for conservation of the site. |
| 4.2. Liaise with REPS planners | REPS planners should consult with local NPWS staff when they are developing plans for land within the site. |

Zoning

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

Zone A: A Natural Zone

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

1A: NON-INTERVENTION AREAS

1A1: Existing scrub; oak-birch-holly woodland

Strategies 3.5, 3.6, and the general monitoring strategies apply.

2A: MAINTENANCE AREAS WITH LIMITED MANAGEMENT INTERVENTION

2A1: Ungrazed areas of *calcareous fen, cut-over bog, wet grassland, raised bog (with conifers), wet willow-ash-alder woodland and reed and large sedge swamp

Strategies 1.1-1.5, 2.1-2.2, 3.1, 3.3, 3.5, and the general monitoring strategies apply.

Zone B: Active Management

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

B1: GRAZED AREAS OF *CALCAREOUS FEN / CUT-OVER BOG / WET WILLOW-ALDER-ASH WOODLAND / IMPROVED GRASSLAND

Strategies 1.1-1.6; 2.1-2.2; 3.1-3.5, and the general monitoring strategies apply.

B2: GRAZED AREAS OF WET GRASSLAND / FRESHWATER MARSH / RAISED BOG

Strategies 2.2; 3.1 - 3.5, and the general monitoring strategies apply.

Zone C: Intensive use Zone

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

C1: ACCESS TRACKS

Any alterations to roads, tracks or built infrastructure within the site should not be made without prior consultation with NPWS.

C2: IMPROVED GRASSLAND

The general monitoring strategies apply.

Zone D: Impact Zone

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

D1: SURROUNDING FARMLAND

Farmland upstream of the site may impact on the site via nutrient-enriched run-off.

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	Maintain water quality and quantity	Maintain water quality using General Strategy for water quality monitoring. Liaise with landowners re: notifiable actions. Assess the suitability of fertiliser and pesticide regimes via REPS or DEHLG plans.	NPWS/REPS			
1.2	Investigate site hydrology	Investigate water-table levels across site.	NPWS			
1.3	Enhance water levels	Liaise with landowners to reduce water loss from site.	NPWS			
1.4	Minimise impact of fires	Increase water levels on the site (Strategy 1.1, 1.3) . Liaise with local landowners (Strategy 4.1) . Draw up strategy to minimise the impacts of future fires.	NPWS			
1.5	Prevent further scrub encroachment	Prevent further scrub encroachment REPS or DEHLG plans.	NPWS/REPS			
1.6	Maintain sustainable grazing regime	Establish sustainable grazing levels on site via REPS and DEHLG farm plans. Supplementary feeding is a notifiable action..	NPWS/REPS			
2.1	Maintain habitats of <i>V. moulinsiana</i>	Protect and maintain *calcareous fen and reed swamp habitats (Strategies 1.1-1.6).	NPWS/REPS			
2.2	Minimise exposure to pesticides	Notifiable action for stock dosed with anti-parasitic drugs to graze site within 1 week of dose.	NPWS			
3.1	Maintain water quality and quantity	See Strategy 1.1-1.3	NPWS			
3.2	Maintain sustainable grazing regime	See Strategy 1.6	NPWS/REPS			
3.3	Minimise impact of fires	See Strategy 1.4	NPWS			
3.4	Prevent further scrub encroachment	See Strategy 1.5. No action needed on raised bog.	NPWS/REPS			
3.5	Minimise dumping	Liaise with local authority and landowners to raise awareness of dumping.	NPWS			
3.6	Manage scrub and oak woodland by non-intervention	No action needed.				
4.1	Liaise with interested parties	Maintain liaison with landowners, legal users, relevant authorities and interested parties.	NPWS			
4.2	Liaise with REPS planners	REPS planner to consult NPWS re site plans.	REPS			

APPENDIX I:

GLOSSARY

ABIOTIC FACTORS – Non-living factors such as geology and climate.

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

ALTITUDE - Vertical height above sea level.

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

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

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

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

ANNEX 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.

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

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

ATYPICAL - Not typical/uncommon.

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.

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

CALCAREOUS - Made of or containing calcium carbonate (CaCO₃) and therefore alkaline. limestone for example

CALCAREOUS FENS WITH *CLADIUM MARISCUS* & *CAREX DAVALLIANA* – A priority habitat listed in Annex I of the EU Habitats Directive. *Cladium mariscus* beds of the emergent-plant zones of lakes, fallow lands or succession stage of extensively farmed wet meadows in contact with the vegetation of the *Caricion davallianae* or other Phragmition species.

CANOPY LAYER - The tallest tree layer in a wood.

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.

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

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

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

CUTOVER BOG – 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.

DEHLG - Department of Environment, Heritage and Local Government

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

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.

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

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.

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.).

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 becomes an offence to cut, uproot or damage these plants unless under licence from the Minister. The same order prohibits damage to the habitats of these species.

FRAGILITY - Refers to how robust a site/habitat/species is.

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.

HERBICIDE - A chemical or biological preparation which kills plants.

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

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

INVERTEBRATES - Animals without backbones.

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

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 at the time.

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

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

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

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

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

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

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

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

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

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

NPWS - National Parks and Wildlife Service

ORGANISM - Any living thing.

OS – Ordnance Survey

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

PER-ANNUUM - Each year.

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

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.

PHLOEM - The principle food conducting tissue of vascular plants.

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

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

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

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

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

RAISED BOG - A priority habitat listed in Annex I of the EU Habitats Directive. Raised bogs are 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.

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

RECLAIMED LAND - this is applied to lands which have been modified from their natural state by intervention in the form of: a) drainage, b) bulldozed, c) clearance of scrub, d) infilling of wetland, e) ploughed and reseeded.

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

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

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

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

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

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

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

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

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

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

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

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

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

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).

SWARD - Refers to the vegetation cover of low growing plants communities, such as grasslands.

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

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

TROPHIC STATUS - The nutrient status (i.e. a measure of the availability of nutrients).

UNDERSTOREY - The plant layer below the tree canopy in a woodland.

VASCULAR - Consisting of, or containing vessels adapted for the carriage or circulation of fluid, in plants refers to xylem and phloem.

VERTEBRATES - Animals with backbones.

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

WETLAND - An area habitually saturated with water, and which may be partially or wholly covered permanently, occasionally, or periodically by fresh or salt water up to a depth of 6 m, and which includes bogs, fens, marsh, shallow ponds, river estuaries, and intertidal mud flats.

XYLEM - The main water carrying tissue of vascular plants. It is involved in the transport of minerals, food, storage and support.

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: 18
- O.S. Discovery (1:50,000) map: 60
- O.S. 6 inch (1: 10,560) map: LS029 & LS030

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:

- Colour aerial photo Nos. 11804-11807. Date 2000. Held as digital images o4292-c and o4292-a by NPWS, Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Relevant Legislation:

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

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APPENDIX III: CLIMATE

Climate

BIRR 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.	7.5	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 $\geq 0.2\text{mm}$	19	15	18	15	17	16	15	17	17	18	18	19	204
mean no. of days with $\geq 1.0\text{mm}$	14	11	13	11	13	11	10	13	12	14	13	14	148
mean no. of days with $\geq 5.0\text{mm}$	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

APPENDIX IV: DETAILED INFORMATION ON FLORA AND FAUNA

Flora

The table below lists vascular plants recorded from Lisbigney Bog cSAC by J. Goodyear on 30th April 2004.

English name	Latin name
Sycamore	<i>Acer pseudoplatanus</i>
Common bent	<i>Agrostis capillaris</i>
Creeping bent	<i>Agrostis stolonifera</i>
Marsh Foxtail	<i>Alopecurus geniculatus</i>
Alder	<i>Alnus glutinosa</i>
Wild Angelica	<i>Angelica sylvestris</i>
Sweet vernal grass	<i>Anthoxanthum odoratum</i>
Lady Fern	<i>Athyrium filix-femina</i>
Daisy	<i>Bellis perennis</i>
Silver Birch	<i>Betula pendula</i>
Water Starwort	<i>Callitriche sp.</i>
Heather	<i>Calluna vulgaris</i>
Marsh Marigold	<i>Caltha palustris</i>
Cuckooflower	<i>Cardamine pratensis</i>
Tufted Sedge	<i>Carex elata</i>
Glaucous sedge	<i>Carex flacca</i>
Carnation sedge	<i>Carex panicea</i>
Bottle sedge	<i>Carex rostrata</i>
Sedges	<i>Carex sp.</i>
Greater Tussock-sedge	<i>Carex paniculata</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Creeping Thistle	<i>Cirsium arvense</i>
Meadow Thistle	<i>Cirsium dissectum</i>
Marsh Thistle	<i>Cirsium palustre</i>
Spear thistle	<i>Cirsium vulgare</i>
Traveller's-joy	<i>Clematis vitalba</i>
Hawthorn	<i>Crataegus monogyna</i>
Cocksfoot	<i>Dactylis glomerata</i>
Scaly Male Fern	<i>Dryopteris affinis</i>
Cross-leaved Heath	<i>Erica tetralix</i>
Common cotton-grass	<i>Eriophorum angustifolium</i>
Willowherb sp.	<i>Epilobium sp.</i>
Water Horsetail	<i>Equisetum fluviatile</i>
Beech	<i>Fagus sylvatica</i>
Red fescue	<i>Festuca rubra</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Ash	<i>Fraxinus excelsior</i>

Cleavers	<i>Galium aparine</i>
Marsh Bedstraw	<i>Galium palustre</i>
Herb Robert	<i>Geranium robertianum</i>
Flote-grass	<i>Glyceria fluitans</i>
Ivy	<i>Hedera helix</i>
Mare's-tail	<i>Hippuris vulgaris</i>
Yorkshire Fog	<i>Holcus lanatus</i>
Marsh Pennywort	<i>Hydrocotyle vulgaris</i>
Common cats-ear	<i>Hypochaeris radicata</i>
Holly	<i>Ilex aquifolium</i>
Jointed Rush	<i>Juncus articulatus</i>
Compact Rush	<i>Juncus conglomeratus</i>
Soft Rush	<i>Juncus effusus</i>
Hard Rush	<i>Juncus inflexus</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Perennial rye-grass	<i>Lolium perenne</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Field Wood-rush	<i>Luzula campestris</i>
Heath Wood-rush	<i>Luzula multiflora</i>
Purple Loosestrife	<i>Lythrum salicaria</i>
Water Mint	<i>Mentha aquatica</i>
Bog-bean	<i>Menyanthes trifoliata</i>
Purple moor-grass	<i>Molinia caerulea</i>
Bog Myrtle	<i>Myrica gale</i>
Bog Asphodel	<i>Narthecium ossiofragum</i>
Lousewort	<i>Pedicularis sylvestris</i>
Common Reed	<i>Phragmites australis</i>
Burnet saxifrage	<i>Pimpinella saxifraga</i>
Scot's Pine	<i>Pinus sylvestris</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Smooth meadow grass	<i>Poa pratensis</i>
Rough meadow grass	<i>Poa trivialis</i>
Heath milkwort	<i>Polygala serpyllifolia</i>
Common Polypody	<i>Polypodium vulgare sens. Lat.</i>
Pondweed	<i>Potamogeton sp.</i>
Tormentil	<i>Potentilla erecta</i>
Marsh Cinquefoil	<i>Potentilla palustris</i>
Creeping Cinquefoil	<i>Potentilla reptans</i>
Primrose	<i>Primula vulgaris</i>
Self-heal	<i>Prunella vulgaris</i>
Blackthorn	<i>Prunus spinosa</i>
Bracken	<i>Pteridium aquilinum</i>
Oak	<i>Quercus robur</i>
Meadow buttercup	<i>Ranunculus acris</i>
Creeping buttercup	<i>Ranunculus repens</i>
Lesser spearwort	<i>Ranunculus flammula</i>
Watercress	<i>Rorippa nasturtium-aquaticum agg.</i>
Dog rose	<i>Rosa canina sens. lat.</i>
Bramble	<i>Rubus fruticosus agg.</i>
Common Sorrel	<i>Rumex acetosa</i>
Sheep's Sorrel	<i>Rumex acetosella</i>
Curled Dock	<i>Rumex crispus</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Willows.	<i>Salix spp</i>
Eared Willow	<i>Salix aurita</i>
Grey willow	<i>Salix cinerea ssp.oleifolia</i>
Elder	<i>Sambucus nigra</i>
Black bog-rush	<i>Schoenus nigricans</i>
Water Figwort	<i>Scrophularia auriculata</i>
Ragwort	<i>Senecio jacobaea</i>
Devil's bit scabious	<i>Succisa pratensis</i>
Dandelion	<i>Taraxacum officinale</i>
White clover	<i>Trifolium repens</i>
Reedmace	<i>Typha latifolia</i>
Gorse	<i>Ulex europaeus</i>
Nettle	<i>Urtica dioica</i>
Common Valerian	<i>Valeriana officinale</i>
Brooklime	<i>Veronica beccabunga</i>
Germander speedwell	<i>Veronica chamaedrys</i>

Tufted vetch	<i>Vicia cracca</i>
Bsh vetch	<i>Vicia sepium</i>
Dog Violet	<i>Viola riviniana</i>

This list may be incomplete. A range of bryophytes and lichens also occur on site (NHA survey 1994), but these species have not been fully investigated.

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, bog woodland
- Notifiable Action 4.2 – Fens, transition mires, petrifying springs
- Notifiable Action 5.1 – Woodlands
- Notifiable Action 5.2 – Scrub
- Notifiable Action 6.3 – Marshes and reedbeds
- Notifiable Action 7.1 – Ditches, hedges, cereals and intensive grasslands, walls, buildings, waste ground, bare soil, parkland grassland, bracken, caves or quarries
- Notifiable Action 8.5 – *Vertigo* species, Shining Sickle Moss

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

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

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

<u>SECTION A</u>	<u>SECTION B</u>
<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 2.3

WET LOWLAND GRASSLANDS

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

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

HABITAT TYPE 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.

<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 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

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

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

HABITAT TYPE 4.2

FENS, TRANSITION MIRES, PETRIFYING SPRINGS

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

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

SECTION A

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

SECTION B

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

If so, these notifiable actions do not apply.

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

HABITAT TYPE 4.2

FENS, TRANSITION MIRES, PETRIFYING SPRINGS

<u>Section A</u>	<u>Section B</u>
<p>THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans)</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting</p> <p>adding lime within 50m of the fen or a water course running into it</p> <p>adding fertiliser of any sort within 50m or a water course running into it</p> <p>extracting water for irrigation or other purposes</p> <p>mowing grass before the 30th June (Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply)</p> <p>supplementary feeding of stock</p> <p>operation of boat angling or shore angling business</p> <p>restocking with fish.</p> <p>reclamation, infilling, ploughing or land drainage within 50m of the fen</p> <p>reseeding, planting of trees or any other species within 50m of the fen</p> <p>use of any pesticide or herbicide within 50m of fen</p> <p>dumping, burning or storing any materials within 50m of the fen</p> <p>alteration of the banks, bed or flow of watercourses within the fen or running into or out of it</p> <p>harvesting reed or willow</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the fen</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>afforestation</p>

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

HABITAT TYPE 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.

<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 5.1

WOODLANDS

<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 by livestock</p> <p>adding lime</p> <p>adding fertiliser of any sort</p> <p>reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>felling of trees, removal of timber</p> <p>removal of foliage, moss or other materials</p> <p>killing ivy</p> <p>use of any pesticide or herbicide</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. 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 may cause pollution of the woodland</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>felling trees or reafforestation</p>

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

HABITAT TYPE 5.2

SCRUB

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

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

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

HABITAT TYPE 5.2

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 (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock (as defined in approved farm plans)</p> <p>adding lime /adding fertiliser of any sort</p> <p>reclaiming land covered by scrub; if scrub is cut it must be allowed to regrow</p> <p>reclamation, infilling, ploughing or land drainage</p> <p>reseeding, planting of trees or any other species</p> <p>felling of trees, removal of timber</p> <p>removal of foliage, moss or other materials</p> <p>killing ivy</p> <p>use of any pesticide or herbicide /dumping, burning or storing any Materials</p> <p>alteration of the banks, bed or flow of watercourses</p> <p>operation of commercial recreation facilities (e.g. walking tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which may cause pollution of the site</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>felling trees or reafforestation</p>

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

HABITAT TYPE 6.3

MARSHES AND REEDBEDS

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

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

SECTION A

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

SECTION B

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

If so, these notifiable actions do not apply.

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 6.3

MARSHES AND REEDBEDS

<u>Section A</u>	<u>Section B</u>
<p>THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT</p> <p>grazing of livestock above a sustainable density (as defined in approved farm plans) within 50m of the marsh or reedbed</p> <p>grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung</p> <p>supplementary feeding of stock within 50m of the marsh or reedbed</p> <p>adding lime within 50m of the marsh or reedbed</p> <p>adding fertiliser of any sort within 50m of the marsh or reedbed</p> <p>extracting water for irrigation or other purposes</p> <p>operation of boat angling or shore angling Business</p> <p>restocking with fish.</p> <p>reclamation, infilling, ploughing or land drainage within 50m of the marsh or reedbed</p> <p>reseeding, planting of trees or any other species within 50m of the marsh or reedbed</p> <p>removal of trees or any aquatic vegetation within 50m of the marsh or reedbed</p> <p>use of any pesticide or herbicide in the marsh or reedbed or within 50m of the marsh or reedbed</p> <p>dumping rubbish or other materials or disposing of any chemicals or wastes in marsh or reedbed or into water-courses Running into them.</p> <p>dumping, burning or storing any materials within 50m of the marsh or reedbed including the land spreading of used pesticides (e.g. sheep dip).</p> <p>alteration of the banks, channel, bed or flow of the marsh or reedbed or of watercourses running into or out of it</p> <p>harvesting or burning of reed or willow.</p> <p>causing siltation</p> <p>operation of commercial recreation facilities (e.g. bird watching tours)</p> <p>introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area</p> <p>any other activity of which notice may be given by the Minister from time to time</p>	<p>(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)</p> <p>developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.</p> <p>any activity which might cause pollution of the marsh or reedbed</p> <p>removal of soil, mud, gravel, sand or minerals</p> <p>developing roads or car parks</p> <p>construction of fences, buildings or embankments</p> <p>construction or operation of an aquaculture facility.</p> <p>fishing for eels</p> <p>bank maintenance and grading</p> <p>creation of weirs and dams</p>

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

HABITAT TYPE 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.

HABITAT TYPE 8.5

VERTIGO SPECIES, SHINING SICKLE MOSS

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

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

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

HABITAT TYPE 8.5

VERTIGO SPECIES, SHINING SICKLE MOSS

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

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

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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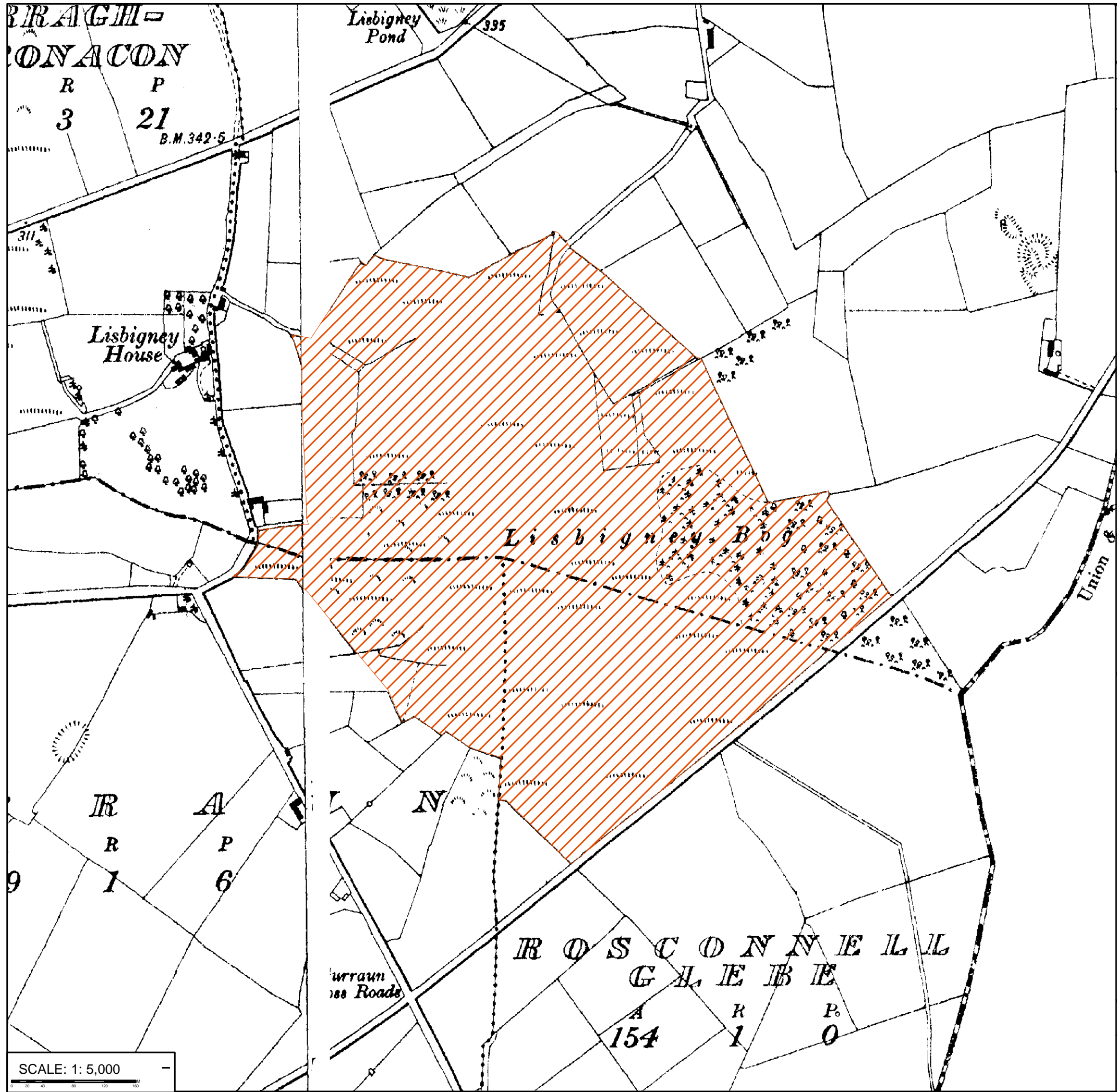
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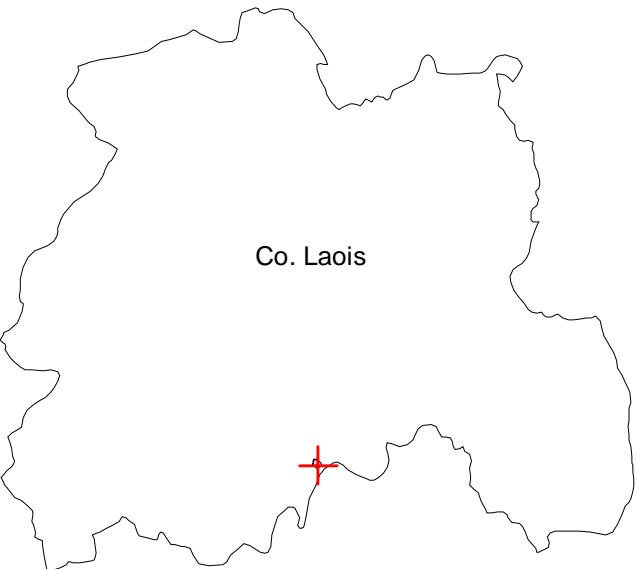
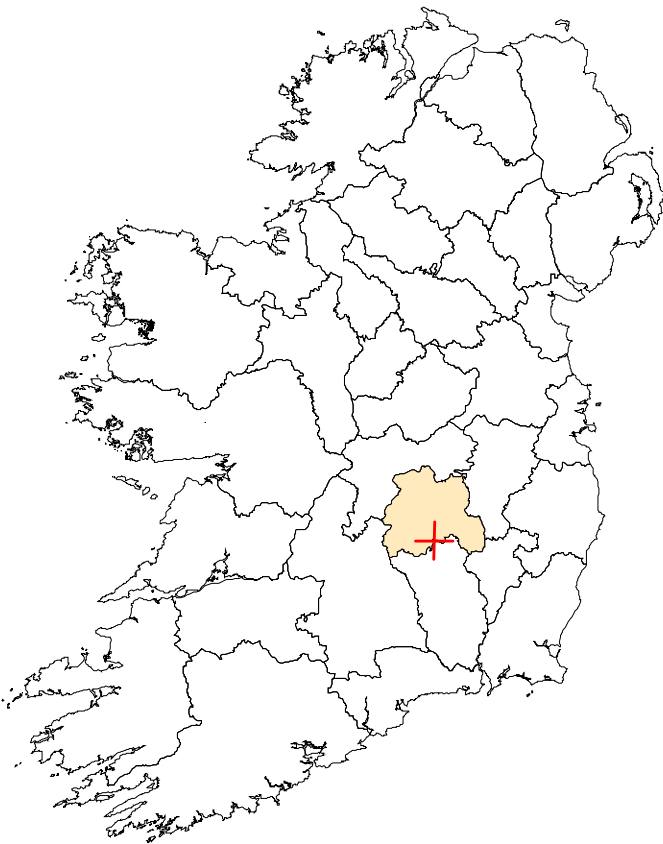


CEANTAR SPEISIALTA CAOMHNATHE
CANDIDATE SPECIAL AREA OF CONSERVATION

LISBIGNEY BOG 000869
Version 1.00

The mapped boundaries are of an indicative and general nature only.
Boundaries of designated areas are subject to revision.
Reproduced from Ordnance Survey material by permission of the Government (Permit number 5953).

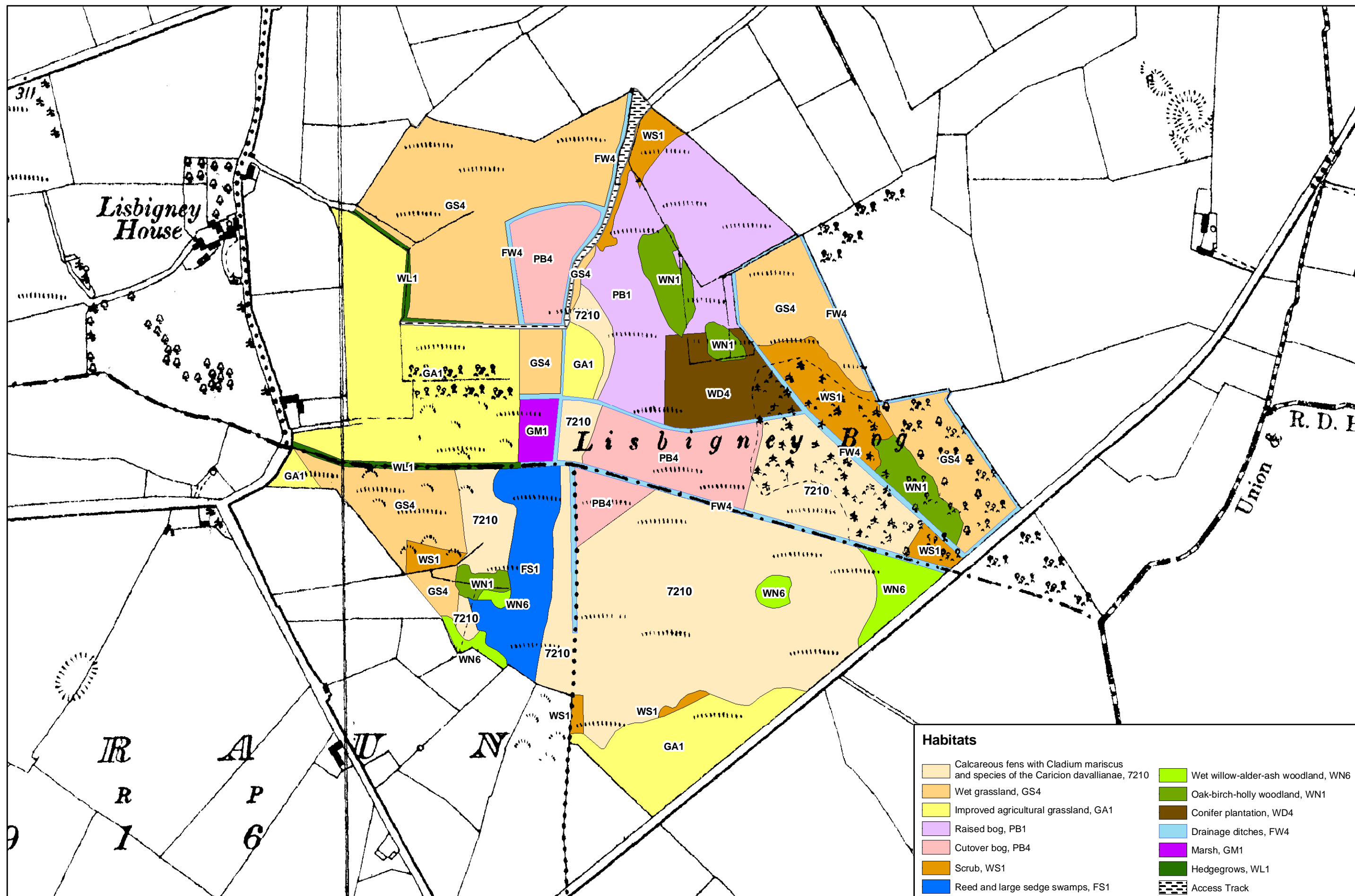
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Féadfar athbheithníthe a déanamh ar theorainneacha na gceantar comharthaithe.
Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadúnas Uimh. 5953)

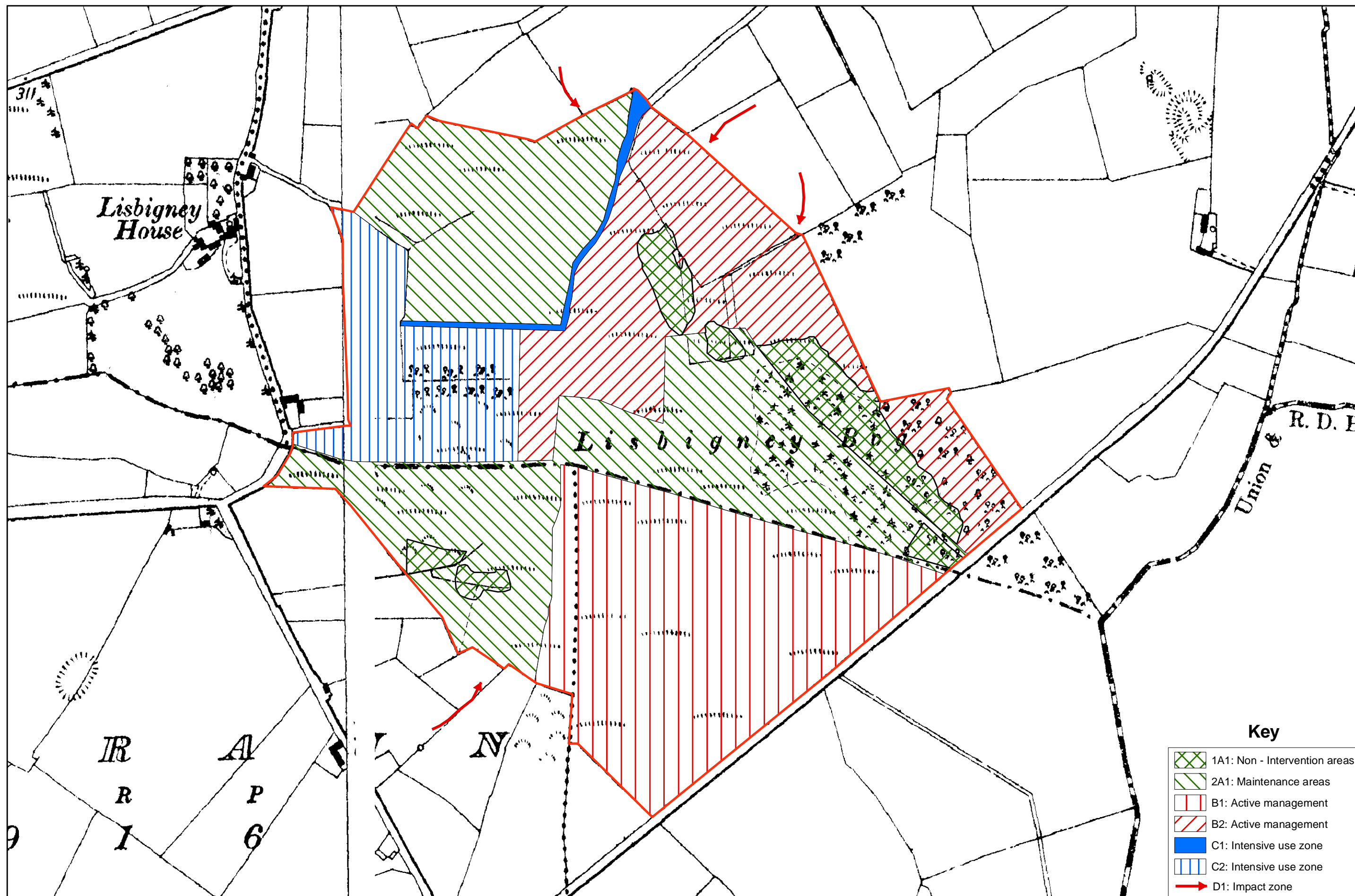


Map 1
LOCATION MAP: LISBIGNEY BOG cSAC 000869



Department of Environment, Heritage and Local Government
An Roinn Comhshaoil, Oidhreacht agus Rialtais Áitiúil
Co-financed through 'Life' EU funding
Chomh-mhaoinithe trí chiste 'LIFE' an AE





Key

- 1A1: Non - Intervention areas
- 2A1: Maintenance areas
- B1: Active management
- B2: Active management
- C1: Intensive use zone
- C2: Intensive use zone
- D1: Impact zone

CEANTAR SPEISIALTA CAOMHNATHÉ
CANDIDATE SPECIAL AREA OF CONSERVATION

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LISBIGNEY BOG cSAC
LA 6" SHEET 029, 030

0 45 90 180
 ————— M
Scale 1: 4,000

MAP 3
MANAGEMENT ZONING MAP

Map to be read in conjunction with conservation plan.

SITE CODE
 — **000869**
cSAC boundary:
Version 1.00
Date: July 2005