



National Parks and Wildlife Conservation Plan for 2005-2010

Keeper Hill cSAC

Site Code 1197 Co. Tipperary



SUMMARY

Site Description

Keeper Hill, or Slievekimalta, candidate Special Area of Conservation (cSAC) is situated between the Silvermines and Slieve Felim Mountain ranges, 13 km south of Nenagh in County Tipperary. Reaching an altitude of 695 m, this rounded, rather steep peak of Old Sandstone is notably higher than any of the surrounding upland areas. The site includes the summit and slopes above 250 m which have not been afforested.

The site is of interest due to the presence of two EU Habitats Directive Annex I Priority Habitats: Active blanket bog and Species-rich *Nardus* Grassland.

The upland blanket bog is dominated by Cotton grasses, Deer-grass, Purple Moor-grass and Heather. Bog Moss cover is abundant and diverse and includes the relatively rare *Sphagnum russowii*. Other species recorded include Crowberry, Bog Asphodel and the moss *Racomitrium lanuginosum*. The blanket bog in the site is limited in extent by the depth of peat. Where the peat is of a depth of less than 30 cm, the habitat has been classified as wet heath. There are only a few areas within the site where the peat is of a greater depth than 90 cm.

Typical species associated with Species-rich *Nardus* Grassland and recorded at the site include Heath Bedstraw, Sheep's Fescue, Tormentil, and Mat-grass. Other species recorded here include Bent grasses, Crested Dog's-tail, Yorkshire Fog, Soft Rush, Sharp-flowered Rush, Meadow Buttercup, Clover, Dock, and Foxglove. Mat-grass although present is not the dominant grass species.

The Annex I Habitat, wet heath is also found within the site in mosaic with blanket bog. Characteristic species of this habitat are present including Heather, Cross-leaved Heath, Heath Rush, Purple Moor-grass, Cowberry and Bilberry. Localised wet flushes are also present and are dominated by Soft Rush, Purple Moor-grass and Bilberry.

Scrub has survived in areas inaccessible to grazing animals. The species found here include Rowan, Hawthorn, and Hazel, grading into Birch. This habitat is found mainly in gullies formed by mountain streams.

Peregrine Falcon, a species listed in Annex I of the EU Birds Directive, and Red Grouse breed within the site. Hen Harrier and Merlin use the site for hunting. These species are also listed in Annex I of the Birds Directive. Other notable species recorded from the site include Woodcock, Kestrel, Snipe and Skylark.

Otter (listed in Annex II of the Habitats Directive), Irish Hare, Fallow Deer Feral Goat, Badger, Common Lizard and Common Frog have also been recorded in the site.

Land Use

- Low density grazing occurs, mainly by cattle, and is largely confined to the lower slopes.
- There are many roads/tracks throughout the site. Most of the tracks are for access to the forestry plantations which surround much of the site. However, the tracks also provide access for recreational use of the upland area.
- There is a TV booster station on the summit of the hill and an associated track leads to this.

Main conservation issues

- Grazing
- Afforestation
- Recreational activities

Main management objectives

- To maintain the ecological value of the priority habitats active blanket bog (65% of the site, including that found in mosaic with other habitats) and species-rich *Nardus* grassland (25% of the site, including that found in mosaic).
- To maintain the ecological value of the other habitats such the wet heath, flushes, streams, exposed rock and scrub.
- To maintain the populations of important plants and animals, particularly bird species listed in Annex I of the Birds Directive- Peregrine Falcon, Merlin and Hen Harrier and the Otter, listed in Annex II of the Habitats Directive.
- To extend the boundary of the site to include a stream valley with deciduous woodland.
- To achieve consensus on the conservation management of the site with landowners, the local community and other interested parties.

Main strategies to achieve objectives

- Keep grazing density below the level which causes excessive damage to the vegetation, but conversely high enough to prevent the encroachment of scrub.
- Control potentially damaging activities such as land improvement/reclamation and afforestation within the site.
- Liaise and consult with landowners and other interested parties on the effective management of the site.

ACKNOWLEDGEMENTS

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READER'S GUIDE

The Department of Environment and Local Government (DELG), 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 **Introduction** outlines the **policy background** to the site's designation and the relevant legislation.

The **Site description** contains **general information** on the site's boundaries, ownership and organisations involved. It also contains sections on the **physical aspects** of the site such as 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 Ecological Assessment assesses the main ecological attributes of the site.

The **Objectives, Strategies and Zoning 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 will be used to achieve the objectives as outlined. In cases where more information is required, general strategies are usually applied. Where sufficient data and knowledge is available, specific management prescriptions are outlined for the timescale of the plan. 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, a list of **notifiable actions** relevant to each habitat within the site, and additional information on the site.

INTRODUCTION

Legal Background for Conservation Plans

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

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

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

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

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

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

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 Site Designation

The reason for the proposal to designate this site as a SAC is the presence of:

HABITATS LISTED IN ANNEX I OF	THE E.U. HABITATS DIRECTIVE
 *Active blanket bog 	This is an Annex I priority habitat. The blanket bog in Keeper Hill cSAC is relatively intact, and is one of only a few in the midlands. Overall it is regarded as representing a good example of this habitat type.
 *Species-rich Nardus grasslands, on siliceous substrates in mountain areas 	This is an Annex I priority habitat. It is found in several locations throughout the site and appears to be in good condition.

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

As part of his responsibility in relation to biodiversity and wildlife under the Wildlife Acts, the Minister's objective is to protect important habitats and species even though they may not appear in the Annexes of the Habitats Directive. This may mean that they are included in SAC conservation plans.

General Conservation Objectives

Under Article 6 of the EU Habitats Directive, DELG is required to ensure the favourable conservation status of all Annex I habitats and Annex II species within cSACs. By preparing, implementing and reviewing this plan on a five year basis, DELG aims to achieve the objectives of the Habitats Directive in relation to this site. The general objectives DELG will apply to achieve this are:

- to maintain the Annex I habitat(s) for which the cSAC is selected
- to maintain the Annex II species for which the cSAC is selected

• to increase the scientific knowledge of the site through further scientific research and development of monitoring programmes

Specific conservation objectives and strategies are outlined in the section, **Objectives**, **Strategies** and **Zoning**.

Implications for landowners and other site users

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

In cases where users 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 an owner, occupier or user of a site wishes to carry out certain activities within the designated area (that are not covered by licence or consent from another statutory body), they must consult with, and get consent from, the Minister for the Environment and Local Government. These activities are listed as "Notifiable Actions" for each habitat (see Appendix III). Local Authorities are obliged to ensure appropriate assessment of the implications of any development permission sought that may have an impact on a designated area.

The designation of the site or any conservation actions can be appealed by landowners or rightowners on a scientific basis. Details of the appeals procedure are also given in Appendix IV.

SITE DESCRIPTION

Location including site boundaries

Keeper Hill or Slievekimalta, is situated between the Silvermines and Slieve Felim Mountains, 13 km south of Nenagh in north-west County Tipperary. The location and boundary of the site are shown on Map 1.

Grid Ref.:	R 82 66	
Latitude:	N 54 45 00	
Longitude:	W 08 15 50	
Area:	414 ha	
Altitude Range:	244 m to 695 m	
(Map references are provided in Appendix II).		

Site Boundaries

A further area of interest is proposed for inclusion within the cSAC. This is shown on Maps 2 and 3.

Legal Status

Ownership

The majority of the site is owned by Coillte Teoranta. The remaining area is held under multiple private ownership (see Map 1a for the details of the land owned by Coillte).

Designations of the Site

candidate SpecialSite Code: 80001197Area of ConservationSite Code: 1197proposed NaturalSite Code: 1197Heritage AreaSite Code: 1197

Management Infrastructure

Individuals and Organisations Involved

Landowners

Coillte Teoranta and multiple private landowners.

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NPW is responsible for maintaining the nature conservation value of the site. The is patrolled by local Conservation Rangers, with input from other staff as necessary.(see Appendix VI for further details of NPW regional staff).

Tipperary (North Riding) County Council is the relevant local authority.

Local Authority Policy in relation to the Site

The County Development Plan for Tipperary states that "The planning authority recognises the value to the county and to the nation of the many areas and structures of historic, artistic, and archaeological importance that exist in the county. There are, also, many areas and features of scientific, botanic and wildlife interest. Where such sites, structures and features are not National Monuments, the Planning Authority shall protect them as far as practicable".

Physical Features

Climate

This site is situated in Co. Tipperary. This region receives approximately 1,200 average annual total sunshine hours, and has a mean annual wind speed (at 10 metres height) of about 4.5 m/s. The site receives a mean annual rainfall of 1000-1200 mm.

The closest synpotic meteorological station to the site is located in Birr, Co. Offaly (Grid Reference: N074044). The following table shows the mean values for the variables shown, for the period 1990-1998

Year	Temperature (⁰ C)	Total rainfall (mm)	Total sunshine (hrs)	Mean wind speed (knots)
1990	10.1	845.1	1222.0	6.5
1991	9.7	801.0	1073.0	5.9
1992	9.8	820.3	1012.8	6.0
1993	9.3	867.6	932.0	6.2
1994	9.6	949.5	1049.7	7.2
1995	10.2	828.6	1321.4	6.0
1996	9.3	837.7	1174.5	5.6
1997	10.4	943.3	1173.3	5.5
1998	10.3	1003.1	1063.7	6.7
Average	9.9	877.4	1113.6	6.2

Geology & Geomorphology

The underlying geology of the area is Sandstone. The central part of the mountain comprises Silurian Sandstone, while the surrounding rocks are Yellow and Red Sandstones of Devonian age.

Soils and Soil Processes

Typically the range of soils occupied by *species-rich *Nardus* grasslands is narrow. They are characteristically associated with podzols, peaty podzols, peaty podzolsed gleys and brown podzols. (O'Sullivan, 1992).

Biological Features

Habitats and Vegetation

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

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

Annex I Habitat Type	Corresponding NHA Category	% Area
*Active blanket bog	Blanket bog	65% (includes area found in mosaic with wet heath)
*Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas	Upland grassland on mineral soil	25% (includes area found in mosaic with upland/wet grassland)
Northern Atlantic wet heaths with <i>Erica</i> tetralix	Heath	Area included with blanket bog
	Scrub	5%
	Lowland wet grassland	Area included with Nardus grassland
	Exposed rock	2%
	Rivers and streams	3%

Habitats Found within Keeper Hill cSAC

Annex I Habitat:

*Active blanket bog (65% of total site area, including area found in mosaic with wet heath)

The upland blanket bog in the site is dominated by Cotton grasses (*Eriophorum* spp.), Deergrass (*Trichophorum* caespitosum), Purple Moor-grass (*Molinia* caerulea) and Heather (*Calluna* vulgaris). Sphagnum cover is abundant and diverse and includes the relatively rare Sphagnum russowii. Other species recorded include Crowberry (*Empetrum* nigrum), Bog Asphodel (*Narthecium* ossifragum) and the moss Racomitrium lanuginosum. The blanket bog at the site is limited in extent by the depth of peat. Where the peat is of a depth of less than 30 cm, the habitat has been classified as wet heath. For the purpose of habitat mapping the blanket bog and heath have been mapped as a mosaic. There are only a few areas within the site where the peat is of a greater depth than 90 cm.

*Species-rich Nardus The *species-rich Nardus Grassland is found in several locations grassland (25% of throughout the site, and is also found in a mosaic with lowland wet total site area, grassland and Gorse (Ulex europaeus). Typical species associated with including area found in this habitat and recorded at the site include; Heath Bedstraw (Galium mosaic with upland/wet saxatile), Sheep's Fescue (Festuca ovina), Tormentil (Potentilla erecta), grassland) and Mat-grass (Nardus stricta). Other species recorded here include Common Bent (Agrostis capillaris), Crested Dog's-tail (Cynosurus cristatus), Yorkshire Fog (Holcus lanatus), Soft Rush (Juncus effusus), Sharp-flowered Rush (Juncus acutiflorus), Meadow Buttercup (Ranunculus acris), Clover (Trifolium sp.), Dock (Rumex sp.), and Foxglove (Digitalis purpurea). Mat-grass, although present, is not the dominant grass species. Northern Atlantic wet Wet heath is the dominant habitat within the site, and is often found in heaths with Erica mosaic with the other habitats. Characteristic species of this habitat are tetralix (area included present including Heather, Cross-leaved Heath (Erica tetralix), Heath

present including Heather, Cross-leaved Heath (*Erica tetralix*), Heath Rush (*Juncus squarrosus*), Purple Moor-grass, Cowberry (*Vaccinium vitis-idaea*) and Bilberry (*Vaccinium myrtillus*). Localised wet flushes are also present and are dominated by Soft Rush, Purple Moor-grass and Bilberry.

Other Habitats

with blanket bog)

Scrub/Woodland	Scrub has developed in areas inaccessible to grazing animals. The species here include Rowan (<i>Sorbus aucuparia</i>), Holly (<i>Ilex aquifolium</i>), Hawthorn (<i>Crataegus monogyna</i>), Willow (<i>Salix</i> spp.), Blackthorn (<i>Prunus spinosa</i>), Hazel (<i>Corylus avellana</i>) and Birch (<i>Betula pubescens</i>). This habitat is found mainly in gullies, which are associated with the many streams present. The understorey is well developed and supports Ivy (<i>Hedera helix</i>), Honeysuckle (<i>Lonicera periclymenum</i>), Bracken (<i>Pteridium aquilinum</i>), Bramble (<i>Rubus fruticosus</i>), Woodrush (<i>Luzula sylvatica</i>), Wood-sorrel (<i>Oxalis acetosella</i>), and Herb Robert (<i>Geranium robertianum</i>), as well as many Mosses and Ferns.	
	The proposed inclusion to the site supports this type of vegetation.	
Lowland wet grassland/flushes	Localised flushed areas occur throughout the site. They are characterised by abundant rushes. Pure stands of Woodrush are locally abundant. Soft Rush, Purple Moor-grass and Bilberry are also common components of these flushes.	
Exposed rock	The Eagles Nest is formed by rocky crags and cliffs. These areas are quite inaccessible. They are also thought to support relics of Alpine heath which may be found in mosaic with outcropping rock, which is also present on the summit of the hill.	
Rivers/streams	There are several streams within the site, occupying steep sided gullies. The upper reaches of these streams are characterised by steep gradients and often form impressive waterfalls. Scrub is common on the lower reaches of these streams.	

Notable Flora

The moss *Sphagnum russowii* occurs in the site. This species is relatively rare and is a calcicole moss (pers. comm., C. Douglas 1999).

Fauna

The species lists are supplied by local NPW staff.

Amphibians and Reptiles

Common Frog (*Rana temporaria*), a species listed as Internationally Important in the Irish Red Data Book, breeds in the site.

Common Lizard (Lacerta vivipara) is also found within the site.

Birds

The following table lists notable species recorded in the site.

Species	Birds Directive	Red Data Book
Peregrine Falcon (<i>Falco peregrinus</i>)	Annex I	Internationally Important
Hen Harrier (Circus cyaneus)	Annex I	Endangered
Merlin (Falco columbarius)	Annex I	Rare
Red Grouse (Lagopus lagopus)	-	-
Woodcock (Scolopax rusticola)	-	-
Kestrel (Falco tinnunculus)	-	-
Snipe (Gallinago gallinago)	-	-
Skylark (Alauda arvensis)	-	-
Pheasant (Phasianus colchicus)	-	-

Peregrine Falcon breed within the site. A Hen Harrier survey was carried out in 1998 and one pair was recorded in close proximity to the site. Merlin use the site for hunting. The site is a known breeding ground for Red Grouse.

Mammals

Otter (*Lutra lutra*), listed in Annex II of the Habitats Directive and in the Irish Red Data Book as Internationally Important, has been recorded in the site. Irish Hare (*Lepus timidus hibernicus*) and Badger (*Meles meles*), also listed in the Irish Red Data Book as Internationally Important, are found in the site.

Fallow Deer (Dama dama), Feral Goats (Capra sp.) and Fox (Vulpes vulpes) also use the site.

Cultural Features

Land use and impacts on the site

Grazing	Cattle grazing occurs in almost all parts of the site. However, the lower slopes of the site are more heavily grazed. Winter feeding of Cattle is practised within the site. However, the feeders are placed on well drained mineral soils, causing minimal damage to the surrounding vegetation. 15-20 Feral Goats and a small number of Fallow Deer also graze within the site.
	site.

Telecommunications A TV Booster Station operated by Westward Cable is situated on the summit of Keeper Hill. There is an access track associated with this station.

Amenity With ease of access along forestry roads and the aforementioned trackway to the summit, Keeper Hill is a popular amenity area and vantage point. The site is used for hill walking, hang gliding, motorbike riding and has in the past been used for car rallying.

Land use adjacent to the site

Afforestation	Much of the lands surrounding the site are under commercial forestry plantations.
Grazing	Sheep and cattle grazing are practised on the some of the lands adjoining the cSAC.
Present human settlement patterns	The area around the cSAC is sparsely settled.

Past human use

The current vegetation of the site suggests that the land has been grazed for a considerable period of time. There are no known records pertaining to the past management history of the site.

ECOLOGICAL ASSESSMENT

Note: The following is an assessment of the ecological features of the site. It is largely based on information given in the explanatory notes which accompany the Natura 2000 form (compiled in 1996 and updated in 1999). Additional information, obtained since these notes were written may also have been used to make the assessment.

Priority Habitats

*Active blanket bog

The blanket bog at this site is relatively intact and there is some diversity in vegetational communities, microtopography and species. This upland blanket bog is one of only a few in the midlands and overall is regarded as representing a good example of the habitat.

Although Cattle have access to the whole site, the summit is largely not visited by them, so overgrazing is unlikely. There are no sheep on the site.

Forestry may be extended to the area owned by the semi-state body Coillte but this eventuality can possibly be avoided through consultation and agreements.

*Species-rich *Nardus* grasslands on siliceous substrates in mountain areas

Nardus grassland is represented within the site in two main areas as well as being present in a mosaic with wet heath and wet grassland. The area is lightly to moderately grazed by cattle and appears to be in good condition. Some grazing is required to ensure that bracken, gorse or scrub do not invade.

As with blanket bog, this habitat is vulnerable to afforestation.

Annex I Bird Species

Peregrine Falcon

The breeding population of this species at the site is one pair. This pair of birds has bred successfully 11-12 times over the past 15 years.

The area where the Peregrine Falcon breeds within the site is a typical breeding location for the bird. It is inaccessible and not susceptible to threats. The site and the lowlands surrounding it provide a good range of prey species.

Merlin & Hen Harrier

Merlin and Hen Harrier have also been recorded at this site, however, they probably use the site as feeding grounds and have not recorded as breeding here.

OBJECTIVES, STRATEGIES AND ZONING

Conservation Objectives

The nature conservation objectives for this site are:

Objective 1:	To maintain, and where possible enhance the ecological value of the priority habitats *Active Blanket Bog (65% of the site, including areas found in mosaic with other habitats) and *Species-rich <i>Nardus</i> Grassland (25%, including areas found in mosaic).
Objective 2:	To maintain, and where possible enhance the ecological value of the other habitats: wet heath (found in mosaic with blanket bog), wet grassland (found in mosaic with <i>Nardus</i> Grassland), streams (3%), exposed rock (2%) and scrub (5%).
Objective 3:	To maintain, and if possible increase the populations of important plant and animal species, particularly birds listed in Annex I of the Birds Directive- Peregrine Falcon, Merlin and Hen Harrier and the Otter, listed in Annex II of the Habitats Directive.
Objective 4:	To extend the boundary of the site to include a stream valley with deciduous woodland.
Objective 5:	To achieve consensus on the conservation management of the site with landowners, the local community and other interested parties.

Management Issues

Note: The main issues that may impact on the conservation of the site are outlined below. The constraints that these may pose and the management potential for the site are discussed.

- Grazing
- Afforestation
- Recreational activities
- Boundary amendments

Grazing

The site is in excellent condition. In order to maintain the favourable conservation status of the *species-rich *Nardus* grassland, grazing intensity needs be kept below the level which causes excessive damage to the vegetation, yet conversely high enough to prevent the encroachment of scrub.

Afforestation

A large proportion of the site is owned by Coillte. Since Keeper Hill was first listed as an Area of Scientific Interest (ASI) in 1972, large sections of the original site have been planted with conifers. Continued afforestation would further reduce the size and ecological value of the site.

Coillte will be informed of the ecological value of the site and management agreements can be agreed to ensure that there is no further afforestation on Keeper Hill, or alternatively, purchase agreements could be made.

Recreational activities

The site is used by Hill Walkers, Hang Gliders and has in the past been used for car rallying.

Illegal shooting of Red Grouse is thought to be an on-going problem.

Boundary amendments

A valley containing a small stream which flows from the site is currently outside the site boundary. This area is proposed for inclusion into the cSAC. The steeply sided valley supports a narrow strip of diverse deciduous woodland, which includes Rowan, Willow, Holly, Hawthorn, Blackthorn, Birch and occasional Hazel. The understorey is well developed and supports many herb species as well as many mosses and ferns. This area also provides excellent cover for Woodcock.

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

DELG 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 DELG 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 Act.

Establish a monitoring regime

The monitoring regime for the site will comprise:

- **Scientific monitoring** Monitoring of the favourable conservation status of the Annex I habitats will be done by, or on behalf of, the staff of the Monitoring Section of the NPW or staff working to NPW in accordance with the procedures laid down by that section. The work, if any, to be done on this site in that respect will be prescribed by that section.
- **Site surveillance** Patrolling of the site by the Conservation Ranger, with special attention to the Annex I habitats and Annex I/II species will identify any major changes (particularly the invasion of scrub, which could indicate that grazing pressure is not high enough), damaging operations (e.g. reclamation), or threats should they arise.

Enforce notifiable actions

Certain activities may be restricted in SACs. Notifiable Actions for particular habitats are listed in Appendix III of this plan. Permission from the Minister is required before these actions may be carried out within the designated area. For example, rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas is a notifiable action for *active blanket bog.

Specific Strategies

Objective 1.

To maintain, and where possible enhance the ecological value of the priority habitats *Active Blanket Bog (65% of the site, including areas found in mosaic with other habitats) and *Species-rich *Nardus* Grassland (25%, including areas found in mosaic).

Strategies:

- **1.1. Grazing management** Stock levels will be based on a grazing impact assessment survey which will be carried out for the site. This assessment uses the methodology of the Commonage Framework Planning Project. The stock levels should be set below the level which causes eutrophication, overgrazing, or erosion, but still high enough to control the encroachment of coarse vegetation and scrub. These will be incorporated into REPS plans and/or DELG farm plans produced by NPW for each farm. Where the stock level set by the REPS planner requires a reduction, this must be achieved within an agreed timescale from the beginning of the REPS/Farm planning period. Where the level is to increase, this can be spread over the period of the plan, as specified by the planner. The same level will apply to a REPS plan as for a Farm plan. The categories shown on the assessment will be the following:
 - U: Undamaged. No stock reduction will be proposed
 - **M/U:** Moderate to undamaged. 20-40% of stock reduction will be proposed (30% norm)
 - MM: Moderate damage. 40-60% of stock reduction will be proposed (50% norm)
 - M/S: Moderately to severely damaged. 60-70% of stock reduction will be proposed (65% norm)
 - S: Severe damage. 70-100% of stock reduction will be proposed
 - S*: Severe damage with over 10% eroded peat. 100% of stock reduction will be proposed

The above mentioned categories will be shown on a Grazing Impact Assessment map with relevant descriptive and prescriptive details.

The current management practices appear to be in keeping with the future conservation of the site. The blanket bog can tolerate low levels of summer grazing although this is not essential to the maintenance of the habitat. However, the *species-rich *Nardus* grassland requires low levels of seasonal grazing to maintain its ecological value. Ideally the grazing should be carried out by Cattle and confined to the period April to November.

1.1.	continued	In addition, the following also apply:	
		• Anti-parasitic chemicals which leave residues in dung affecting dung fauna should not be used. Where parasitic control has to be used, grazing livestock should be kept off the site for a period of a week after treatment. No bolus treatment should be used.	
		For the *species-rich <i>Nardus</i> grassland, where grazing is not carried out, a policy of non intervention can only be tolerated for a short period of time (5 years maximum), after which scrub invasion will have to be controlled.	
1.2.	Prevention of damaging activities	Activities which may have negative impacts on the site are listed in Appendix III. Consultation with NPW is required before these actions may be carried out within the site. In particular:	
		• Land reclamation, the application of fertilisers and reserving.	

• Burning, drainage works and afforestation

Objective 2.

To maintain, and where possible enhance the ecological value of the other habitats: wet heath (found in mosaic with blanket bog), wet grassland (found in mosaic with *Nardus* Grassland), streams (3 %), exposed rock (2 %) and scrub (5 %).

Strategies:

- 2.1. To maintain the ecological value of the other habitats: wet heath, and flushes. The strategies referred to for the *species-rich Nardus grassland (strategies 1.1 and 1.2) are applicable to these areas. In most instances there is no boundary between the blanket bog, *species-rich Nardus grassland and these areas, so for management purposes these habitats will be treated as one unit.
- 2.2. To maintain the ecological value of the streams, exposed rock The streams and scrub are confined to inaccessible parts of the site, so grazing is not an issue for these areas. They do not require any intervention to maintain their ecological value.

Objective 3.

and scrub.

To maintain, and if possible increase the populations of important plant and animal species, particularly birds listed in Annex I of the Birds Directive- Peregrine Falcon, Merlin and Hen Harrier and the Otter, listed in Annex II of the Habitats Directive.

Strategies:

- **3.1. Maintain important plants found within the site**The strategies listed above (including general strategy - site surveillance), designed to protect the site from damaging activities such as overgrazing and burning, also aim to protect the habitats of notable species, such as *Sphagnum russowii*.
- 3.2. Maintain notable mammal, amphibian and reptile species occurring within the site

3.3. Maintain population of Peregrine Falcon and other notable bird species Monitoring the breeding success of this important species will continue to be carried out by the Conservation Ranger.

Regular counts of the other important birds, including the numbers breeding, roosting and feeding/hunting will also be carried out by the Conservation Ranger.

Objective 4.

To extend the boundary of the site to include a stream valley with deciduous woodland.

Strategies:

4.1. Include stream The boundate valley and of the valle associated cuts through woodland wooded with

The boundary of this proposed inclusion is the top of the wooded slope of the valley. On leaving the cSAC boundary, this valley and stream cuts through a conifer plantation for a short distance before becoming wooded with deciduous trees. The end of the inclusion is the river into which the stream flows. Management is as for scrub (strategy 2.2).

Objective 5.

To achieve consensus on the conservation management of the site with landowners, the local community and other interested parties.

Strategies:

5.1. Liaise with NPW will strive to initiate and maintain effective liaison with interested parties landowners (particularly through the Liaison Committee), relevant authorities and interested parties on achieving the objectives for conservation of the site. Monitor 5.2. NPW will continue to monitor applications, including current development applications, for planning permission and licenses for lands within and applications adjacent to the site. Appropriate bodies will be notified if developments are thought to conflict with conservation objectives. 5.3. Liaise with REPS REPS planners are required to consult with NPW staff when they are planners developing plans for land within the site.

Zoning

Note: Zoning is the division of a nature conservation site and neighbouring lands into a number of sub-units. There are four types of zones identified (not necessarily all occurring within a site): A, B and C within the site and D outside the site but impacting on it. The relevant strategies are listed for each site.

Zone A: A Natural Zone

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

- 1A: NON-INTERVENTION AREAS
- 1A1: Scrub, streams and exposed rock No management intervention is required to manage these habitats for conservation Strategy 2.2 applies
- 1A2: Proposed inclusion

Strategies 4.1 and 2.2 apply.

2A: MAINTENANCE AREAS WITH LIMITED INTERVENTION

2A1: *Active blanket bog, *species rich *Nardus* grassland, wet heath and flushes. Sustainable grazing required.

Strategies 1.1, 1.2, 2.1 and general strategy - site surveillance apply

Zone C: Intensive use Zone

Areas of low conservation value, managed for objectives other than nature conservation, but which are an important part of a nature conservation site (e.g. infrastructure).

C1: Road leading to telecommunications mast and the mast itself. No alterations should be made to the road without prior consultation with NPW.

APPENDIX I: GLOSSARY

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

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

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

ALTITUDE - Vertical height above sea level.

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

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

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

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

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

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

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

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

ANNUALS - Plants which complete their lifecycle in one year, germinating in Autumn or spring, flowering fruiting and dying by the following Autumn.

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

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

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

BIRDS DIRECTIVE (Council Directive 79/ 409/ 2nd April 1979) - Under this Directive Ireland is required to conserve the habitats of two categories of wild birds: 1) Listed rare and vulnerable species and 2) Regularly occurring migratory species. The Directive also obliges Ireland to conserve wetlands, especially those of international importance and regulates the hunting and trading of wildbirds. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

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

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

CATCHMENT - An area of land draining to a defined point. The term river catchment refers to the area of land that drains into a particular river system.

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

COMMERCIAL FOREST - An NPW habitat classification which applies to plantations of coniferous trees, primarily Sitka Spruce, Lodgepole Pine, Douglas Fir, Japanese Larch and Norway Spruce. More than 90% of the canopy is formed by coniferous trees, although there may be broad-leaved trees, especially Birch present along the plantation edges.

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

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 seminatural ones.

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

DENSE BRACKEN – An NPW habitat classification which refers to areas with 75% cover of Bracken (Pteridium aquilinum), a single branched fern with a characteristic small and bright green foliage dying to rich reds and russets in the Autumn.

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

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

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.).

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

EXPOSED ROCK – An NPW habitat classification describing bedrock surfaces, including inland cliffs and crags. These may support a variety of different plants on soil accumulations, but greater than 50% of the rock surface is without vascular plant cover.

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.

FENS AND FLUSHES - An NPW habitat classification. Fens are peatlands fed by calcium rich water, either from groundwater or from inflowing surface water. Flushes are wet areas maintained by the seepage of water down slopes of various gradient, and are usually local features. Both are characterised by an abundance of small Sedge forming species-rich mosaics with other species. Orchid species are particularly noticeable in fens and Butterworts are more typical of flushes.

FLORA - plant life.

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

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

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

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

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

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

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

HERBACEOUS - Seed plants with non-woody green stems.

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.

I-WeBS - Irish Wetland Bird Survey, published by Birdwatch Ireland, summarises winter waterfowl counts from 923 sites in the Republic of Ireland.

IMPEDED DRAINAGE - A limited through flow of water.

IMPERMEABLE - Does not allow the passage of water.

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

INVERTEBRATES - Animals without backbones.

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

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

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

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

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

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

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

MORAINE - A mass of debris carried by glaciers and forming ridges and mounds when deposited.

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.

NATURE RESERVES (NRs) - Under National legislation, the Wildlife Act of 1976, a number of sites have been designated as Nature Reserves. These areas are mainly owned by the NPW and are managed for the purposes of conservation.

NGOs - Non- Governmental Organisations.

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

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

NPW - National Parks and Wildlife has responsibility for nature conservation and implements Government conservation policy as enunciated by the Minister for the Environment and Local Government.

OLIGO - Prefix denoting few or little

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

ORGANISM - Any living thing.

OS – Ordnance Survey

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.

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

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

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

RECLAIMED LAND - this is applied to lands which have been modified from there 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.

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.

RIVERS AND STREAMS - An NPW habitat classification describing linear channels of moving water. These are natural features that distinguish them from ditches and drainage channels.

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 NPW, whose function here is to ensure that the favourable conservation status of the site is maintained and where possible improved.

SCREE - An NPW habitat classification which refers to unconsolidated rocky or stony material on a hillside.

SCRUB – An NPW habitat classification which comprises areas with more than 50% cover of shrubs or small trees. There may be scattered standard trees, but in general the canopy height is 5 m or less. This category does not apply to stands of young trees which will eventually grow to a height of more than 5 m.

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

SEMI-IMPROVED GRASSLAND - An NPW habitat classification which refers to grasslands which have been lightly fertilised but not re-seeded. These grasslands may still support a rich assemblage of grasses and herbs.

SHALE - Fine-grained sedimentary rock, like mudstone but with an irregular parting.

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

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

SPECIES RICH NARDUS GRASSLANDS, (on siliceous substrates in mountain areas.)- A priority habitat listed in Annex I of the EU Habitats Directive. Closed dry or mesophile, perennial grasslands occupying siliceous soils. Vegetation is highly varied, but the variation is characterised by continuity. Nardus stricta (Mat Grass) is not the dominant vegetation but is characteristic of this habitat type.

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.

TERTIARY - Period in geological time stretching from 65 - 1.6 million years ago in the Cenozoic era.

TILL - Unconsolidated, unsorted glacial deposits.

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).

TURBARY – Refers to the right to harvest turf.

UPLAND GRASSLAND ON MINERAL SOIL - An NPW habitat classification describing usually species rich grasslands on mineral soils, normally at altitudes exceeding 100m. Often the vegetation is dominated by calcicolous (lime loving) grasses. Ericaceous scrubs such as Ling, Heather, are scarce or absent, although Gorse, Blackthorn or Hawthorn can occur.

UPLAND GRASSLAND ON PEATY SOIL - An NPW habitat classification describing species poor grassland which develops over, dark, acidic, peaty soils, normally at altitudes which exceed 100m. Common acidic upland grassland types in Ireland include those dominated by Nardus stricta (Mat grass), the narrow leaved Agrostis spp. (Bent grasses) and Molinia caerulea (Purple Moor Grass).

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.

VERY RARE - an ecological term which is applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. Very Rare applies to 1-2, 10 km squares in this context.

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

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.

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

APPENDIX II: REFERENCES

Map References:

O.S. 1/2 inch (1:126,720) map: 18

O.S. Discovery (1:50,000) map: 59

O.S. 6 inch (1: 10,560) map: TI 32

Databases :

NHA database, NPW, 7 Ely Place, Dublin 2.

Natura 2000 database, NPW, 7 Ely Place, Dublin 2.

Photographic Coverage:

NPW HQ Ely Place, Aerial photo No. 48, Flight Line 8753. Date: 1995.

Relevant Legislation:

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

Local Government (Planning and Development) Regulations, 1994.

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APPENDIX III: NOTIFIABLE ACTIONS

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

• 2.1, 3.1, 3.2, 5.2, 6.1, 8.6

UPLAND GRASSLAND, SCREE, AND INLAND CLIFF

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT grazing of livestock above a sustainable density (as	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities. removal of soil, mud, gravel, sand or minerals
defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung	developing roads or car parks construction of fences, buildings or embankments afforestation
changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting/adding lime	commercial turf cutting erecting or operating a windfarm
adding fertiliser of any sort to areas not previously fertilised applying fertiliser which would increase the level of nitrogen in the soil/ applying fertiliser which would increase the level of phosphorous in the soil applying phosphorous to soils which already have in excess of the REPS index 2 levels	
using fertiliser on slopes over 25 degrees creation of new tracks or paths	
burning of vegetation	
reclamation, infilling, ploughing or land drainage reseeding, planting of trees or any other species rock removal/use of any pesticide or herbicide	
dumping, burning or storing any materials alteration of the banks, bed or flow of	
watercourses operation of commercial recreation facilities (e.g. pony trekking)/ introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

BLANKET BOG

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment 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.

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

BLANKET BOG

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density or type of stock (as defined in approved farm plans)	removal of soil, mud, gravel, sand or minerals developing roads or car parks
grazing by livestock treated within the previous	construction of fences, buildings or
week with a pesticide which leaves persistent residues in the dung	embankments
supplementary feeding of stock, except as defined	afforestation
in REPS guidelines/ introduction of stock to formerly ungrazed areas	erecting or operating a windfarm
adding lime/adding fertiliser of any sort	
creation of new tracks or paths/burning of vegetation/ reclamation, infilling, ploughing or land drainage	
reseeding, planting of trees or any other species	
rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas	
commercial peat moss or turf extraction	
use of any pesticide or herbicide, including sheep dip/ dumping, burning or storing any materials	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

HEATH (INCLUDING JUNIPER SCRUB)

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment 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.

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

HEATH (INCLUDING JUNIPER SCRUB)

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density or	removal of soil, mud, gravel, sand or minerals
type of stock (as defined in approved farm plans)/grazing by livestock treated within the	developing roads or car parks
previous week with a pesticide which leaves	construction of fences, buildings or embankments
persistent residues in the dung	afforestation
supplementary feeding of stock, except as defined in REPS guidelines	erecting or operating a windfarm
introduction of stock to formerly ungrazed areas	electing of operating a windram
adding lime/ adding fertiliser of any sort Creation of new tracks or paths	
burning areas of vegetation over 5 ha, or burning any area more often than once every 15 years	
reclamation, infilling, ploughing or land drainage	
reseeding, planting of trees or any other species	
rock removal/cutting turf except from existing banks; no cutting from intact (uncut) areas	
commercial peat moss or turf extraction	
use of any pesticide or herbicide, including sheep dip	
dumping, burning or storing any materials	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area/any other activity of which notice may be given by the Minister from time to time	
In a very limited number of cases it may be need	account for the Minister for The Environment and

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 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.

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

SCRUB

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung supplementary feeding of stock (as defined in approved farm plans) adding lime /adding fertiliser of any sort reclaiming land covered by scrub; if scrub is cut it must be allowed to regrow	any activity which may cause pollution of the site removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments felling trees or reafforestation
reclamation, infilling, ploughing or land drainage	
reseeding, planting of trees or any other species felling of trees, removal of timber	
removal of foliage, moss or other materials	
killing ivy	
use of any pesticide or herbicide /dumping, burning or storing any Materials	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. walking tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

RIVERS OR STREAMS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment 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.

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

RIVERS OR STREAMS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density	any activity which might cause pollution of the river or stream
(as defined in approved farm plans) within 30m of the river or stream/grazing by livestock treated	removal of soil, mud, gravel, sand or minerals
within the previous week with a pesticide which leaves persistent residues in the dung within 30m of	developing roads or car parks
the river or stream	construction of fences, buildings or embankments
supplementary feeding of stock within 30m of the	construction or operation of an aquaculture facility. fishing for eels or salmon
river or stream/adding lime within 30m of the river or stream/adding fertiliser of any sort within 30m	bank maintenance and grading
of the river or stream	creation of weirs and dams
extracting water for irrigation or other purposes	
operation of boat angling or shore angling business/ restocking with fish	
reclamation, infilling, ploughing or land drainage within 30m of the river or stream/ reseeding, planting of trees or any other species within 30m of the river or stream/ removal of trees or any aquatic vegetation within 30m of the river/stream/ use of any pesticide or herbicide in the river or stream or within 30m of the river or stream	
dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them	
dumping, burning or storing any materials within 30m of the river/stream including the land spreading of used pesticides (e.g. sheep dip)./alteration of the banks, channel, bed or flow of the river or stream	
harvesting or burning of reed or willow.	
causing siltation/ operation of commercial recreation facilities (e.g. bird watching tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	
In a very limited number of cases it may be nece	essary for the Minister for The Environment and

APPENDIX IV: 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 V: SUMMARY OF FARMING CONDITIONS UNDER REPS

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

General Provisions

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

Detailed Conditions

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

Stocking Density

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

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

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

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

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

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

Supplementary Feeding

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

Use of Fertilisers and Herbicides

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

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

Water Pollution

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

Restricted and Prohibited Practices

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

Complementary Action

(a) Measures to prevent damage by non REPS participants

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

(b) Evaluating and Monitoring

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

(c) Farmer Education /Advice

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

(d) Seminars for Planners

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

(e) Demonstration Farms

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

(f) Quota Rights

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

(g) Scheme Extension

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

(h) Local Co-ordination

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

APPENDIX VI: NATIONAL PARKS AND WILDLIFE MANAGEMENT STAFF

Conservation Ranger

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District Conservation Officer

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