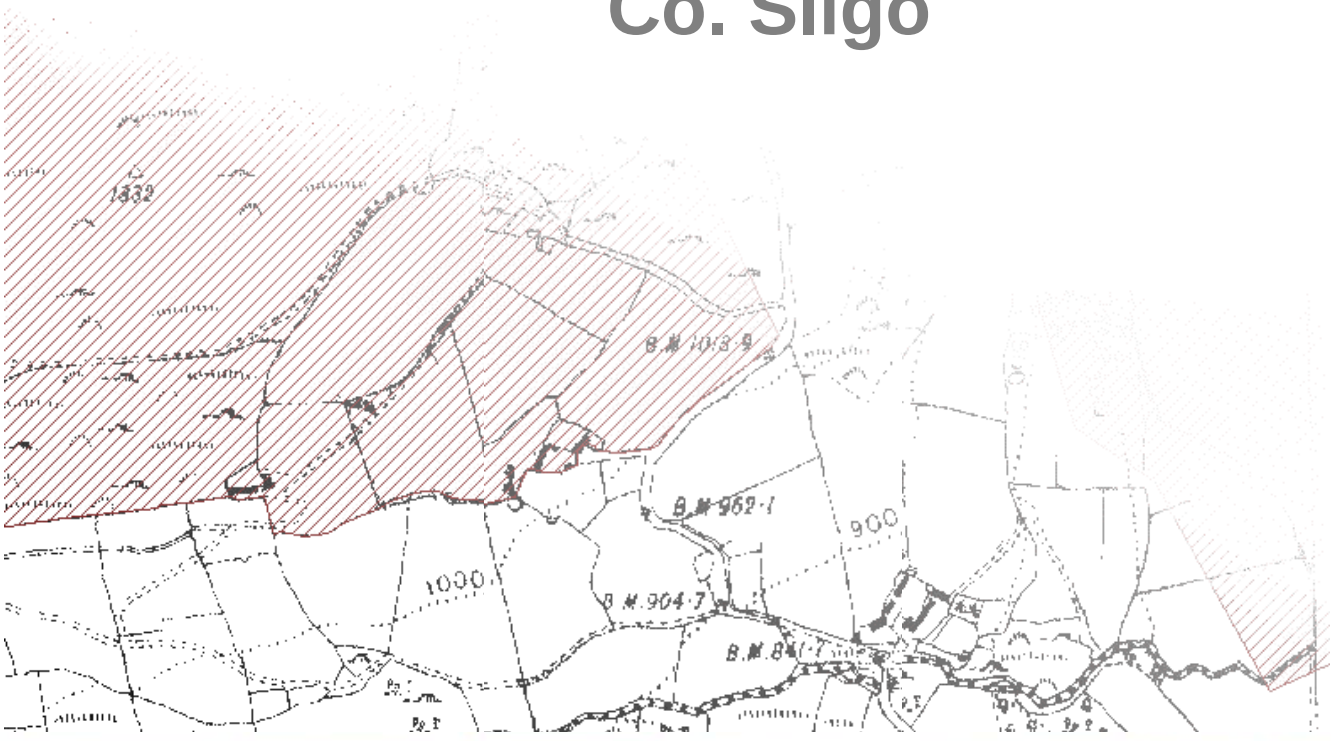
AN ROINN COMHSHAOIL, OIDHREACHTA AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

National Parks and Wildlife Service Conservation Plan for 2006-2011

Templehouse and Cloonacleigha Loughs cSAC

Site Code 00636

Co. Sligo








SUMMARY

Introduction

Templehouse and Cloonacleigha Loughs cSAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive due to the diversity of habitats present, but most particularly because two of those are listed in Annex I of the EU Habitats Directive, namely hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (hard water lakes with stoneworts) and water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (submerged or floating river vegetation). The lakes and the river system are mostly in a natural state.

Description of Templehouse and Cloonacleigha Loughs cSAC

In addition to the three lakes (Templehouse, Cloonacleigha and Killawee) the site incorporates a diversity of wetland habitats which are complemented by the mixed woodland around Templehouse Lake. It contains the greatest range of wetland vegetation in this catchment and the best development of wet woodland, reedbed and tall fen. Nowhere else in Sligo are comparable areas of such vegetation to be found. Other habitats include wet grassland, raised bog and cutover bog.

Two plant species of particular interest, and listed in the Irish Red Data Book, are found on site, namely marsh pea and bird cherry.

The site is important, and provides ideal habitat for waterfowl, particularly dabbling duck species. It holds nationally important numbers of Teal. Whooper Swan and Greenland White-fronted Goose, both listed in Annex I of the EU Bird Directive, have been recorded here and Otter, listed in Annex II of the EU Habitats Directive, frequents the site.

Main conservation objectives

- To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; Hard oligo-mesotrophic waters with the benthic vegetation of *Chara* spp. and water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.
- To maintain the extent, biodiversity and species richness of the site
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Main management issues

- Agriculture
- Arterial drainage
- Dumping
- Housing development
- Lack of information
- Turf cutting
- Willow encroachment
- Woodland management/rhododendron infestation

Main strategies to achieve objectives

- Monitor water quality
- Ensure adequate effluent treatment
- Control drainage operations
- Encourage participation in Native Woodland Scheme
- Ensure best practice during woodland management and forestry operations
- Maintain suitable grazing regimes
- Control turf cutting
- Manage for fisheries/amenity
- Control dumping
- Conduct surveys
- Liaise with interested parties and REPS planners

TABLE OF CONTENTS

APPENDICES

MAPS

READER'S GUIDE

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

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

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

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

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

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

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

INTRODUCTION

Legal Background of Conservation Plans

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

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

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

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

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

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

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

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

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

Sites are legally protected once they are publicly advertised.

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

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

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 Templehouse and Cloonacleigha Loughs cSAC

HABITATS LISTED IN ANNEX I OF THE EU HABITATS DIRECTIVE	CONSERVATION VALUE
• **Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.** (EU Habitat Code 3140)	The lakes are characteristic of this type of habitat, with typical aquatic vegetation and well developed marginal vegetation. Cloonacleigha Lough has a definite *Chara* (stonewort) zone with at least five species.
• **Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation** (EU Habitat Code 3260)	The slow moving, meandering sections of the Owenmore river support a diverse flora including characteristic species for this habitat type.

Implications of Site Designation for Landowners and other Site Users

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

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

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

SITE DESCRIPTION

Location Including Site Boundaries

The site is located approximately 5 km west of the town of Ballymote, County Sligo. It includes Templehouse Lake and Cloonacleigha Lough and extends westward to also incorporate Killawee Lough. A section of the Owenmore River is also included, as are the interconnecting rivers which are its tributaries. See Map 1.

Grid Ref.: G 61 17

Latitude: N 54˚06'

Longitude: W 08˚35'

Area: 495 ha

Altitude Range: 55 to 79 meters

Townlands: Templehouse Demesne, Rathbaun, Kilbrattan, The Island, Cartronroe, Carrowreagh, Cloonahinshin, Cloonaghahaun, Knockalough, Cloonacleigha, Church Hill, Moyrush, Clooncose, Drumraine, Lislea, Farran, Maurice, Tullyhugh, Clooncunny and Rinbaun.

Site Boundaries

The boundaries (Map 1) are demarcated by a combination of public roads and tracks, fences, walls, ditches and over a considerable area, particularly along the rivers and around Cloonacleigha and Killawee Loughs, by unmarked boundaries. Two sections of public, third class road boundaries occur at the north-eastern end of the site. The road continues through the site at this location, for approximately 1.5 km, connecting these two sections.

Site Infrastructure

Templehouse Castle and the Gate Lodge are located within the existing boundary of the site.

A boat house which serves the Templehouse Estate is located on the north-western side of this lake.

Approximately 1.5 km of public third class road runs through the site at the north-eastern end, together with a small surfaced car parking area close to Templehouse Bridge. Together with the additional roads within the Estate short sections of surfaced or gravelled roads and tracks are also included. A gravelled road, extending to the lake-shore, has been developed at the north-western end of Cloonacleigha Lough to enable boats to be launched.

Legal Status

Ownership

The site is in multiple private ownership. Two small areas are commonage (see Map 2).

Designations of the Site

candidate Special Area of Conservation	Sitecode IE000636	Published on July 1st 1999
proposed Natural Heritage Area	Sitecode 000636.	Published in 1995

Past Status and Designation of the Site

Templehouse Lake was listed as an Area of Scientific Interest (ASI) of regional importance by An Foras Forbartha in its National Heritage Inventory, Areas of Scientific Interest in Ireland (1981).

Rights Pertaining to the Site

Fishing	Fishing rights are privately owned.
Hunting	Hunting rights are privately owned.

Government Departments and Agencies

Department of the Environment, Heritage and Local Government (DEHLG)	DEHLG is the government department with responsibility for the protection and conservation of Ireland's natural heritage.
National Parks & Wildlife Service (NPWS)	NPWS is the section of the DEHLG responsible for maintaining the nature conservation value of the site. Periodic inspection of the site is carried out by the local Conservation Ranger. Regional staff also participate in research and survey projects by collecting data on the site, provide advice to planning authorities on the impacts of development applications and provide an education and advisory service to the public (see Appendix VII) for further details of NPWS regional staff.
Sligo County Council	Sligo County Council is the planning authority for the site. As such they are obliged to ensure appropriate assessment of the implications of developments requiring planning permission that may have an impact, either individually or in combination with other developments on the designated area.
Environmental Protection Agency (EPA)	The EPA is an independent state sponsored body with a wide range of statutory duties including monitoring environmental quality and overseeing the performance by local authorities of their statutory environmental protection functions.

Department of Communications, Marine and Natural Resources (DCMNR)	The DCMNR is responsible for licensing and regulating fishing, aquaculture, commercial and other development below mean high water; and under Regulation 31 of the EU Natural Habitats Regulations, for ensuring that such activities in the cSAC do not adversely affect it. Monitoring functions are carried out by individual divisions of the department and by the executive agencies under its direction namely the Central and Regional Fisheries Boards, The Marine Institute and an Bord Iascaigh Mhara.
The Central Fisheries Board	The Central Fisheries Board is the statutory body is responsible for the co-ordination and support of the seven regional fisheries boards. Its responsibilities also include the control of commercial salmon licensing.
North Western Regional Fisheries Board	The North Western Regional Fisheries Board is responsible for maintaining and improving environmental quality and developing and protecting the fisheries resource in their region. The Boards responsibilities cover both inland waterways and out to the twelve-mile limit off the coast.
Department of Agriculture and Food (DAF)	DAF is responsible for the development and regulation of agriculture, forestry and the food industry, including the administration of schemes such as the Rural Environment Protection Scheme (REPS) and the Native Woodland Scheme (NWS).
Office of Public Works (OPW)	The OPW is responsible for maintenance of waterways and arterial drainage works. It funds a local drainage scheme on this site.

Local Authority Policy in relation to the Site

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

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

A. Seek the conservation and wise management of areas of natural environmental value.

B. *Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under the EU Habitats Directive, EU Birds Directive, the Wildlife Act and the Flora Protection Order.*

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

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

A. Maintain, and where possible enhance, the conservation value of all pNHAs, cSACs and SPAs, as identified by the Minister for the Environment, Heritage and Local Government, as well as any other sites that may be proposed for designation during the lifetime of this Plan.

B. *Discourage development that would destroy or damage any sites of international or national importance, designated for their wildlife/habitat significance, including pNHAs, cSACs and SPAs.*

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

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

"*Ensure that any new development in designated Sensitive Rural Landscapes:*

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

Under Section 7.4.1 Record of Protected Structures it is the stated "*objective of the Plan to seek the protection and conservation of buildings and structures of architectural, historical, archaeological, artistic, cultural, scientific, social and technical importance. The principal mechanism for protection is through inclusion on the Record of Protected Structures (RPS)"*. This record is included in Appendix E of the Plan. Included thereon, at number 240, is the Boathouse, Temple House Demesne, dated 1820-1863. At number 236, Temple House, Temple House Demesne dated 1820-1863, is also included. The former is within the SAC and the latter is immediately adjacent to it on its boundary.

Under the Built Heritage section of the County Development Plan, sub-section 7.4.1.1 it is stated policy to secure the protection of all structures included on the Record of Protected Structures (RPS). Under sub-section 7.4.1 it is stated that "*the owner or occupier of a Protected Structure is entitled to ask the Council for a written declaration indicating the type of works that would or would not materially affect the character of that structure or an element of it that contributes to its special interest*". (See Appendix IV for additional relevant Council policies and objectives).

Physical Features

Climate

Ireland enjoys a temperate oceanic climate which is influenced by its location at the western extremity of Europe in the Atlantic Ocean. In general it experiences mild, humid conditions without huge variations in temperatures. Precipitation on this site is relatively high with a total mean monthly rainfall of 1,143 mm. Mean temperature is 8.9 °C and mean monthly wind speed is 8.8 knots.

These statistics are based on meteorological data for Claremorris in county Mayo, the nearest Synoptic Station to Templehouse. This station is located at latitude 53^0 42'; longitude 8^0 59' at an height of 71 m above sea level, approximately 55 km south-west of of Templehouse. (Full details are shown in Appendix III).

The Rainfall Station at Ballyglass G.C., the nearest such station to the site and located approximately 19 km south of it, recorded an annual average rainfall of 1193 mm during the same period.

The estimated mean annual value of the potential evapotranspiration from grass for the period 1958 – 1982 is given by Met Eireann for Claremorris as 415 mm.

Geology & Geomorphology

This scenic landscape has been formed as the result of hundreds of millions of years of geological activity. The area of this generally low-lying site between the Ox Mountains to the north-west and the Curlew Mountains to the south-east is underlain by deposits of Carboniferous age. The rocks have been only slightly affected by the process of metamorphism and deformation, and retain most of their original sedimentary features and structures. The Carboniferous formations outcrop scantily in the areas of low ground and this underlying rock is composed of limestone which is often cherty. It is classified as Glencar/Dartry Limestone formation from its type area around Glencar Lough in the Dartry Mountains. The dominant facies is a massive to thick-bedded, mostly very fine-grained and dark wackestone. Bedding is picked out by bands and nodules of irregular chert, sometimes forming 50% of the rock.

This site is generally covered with glacial deposits of boulder clay, sand and gravel. Postglacial sediments include river alluvium and peat.

Soils & Soil Processes

Much of the area within the site, particularly along the river courses, consists of gleys and peaty gleys which occur on alluvial flats. They have an high content of organic matter in the topsoil, weak structure, an high water table and are subject to periodic flooding. Along the north-eastern side of Templehouse Lake these phase into grey-brown podzolics which have slowly permeable subsoils, with some peaty soils also.

Hydrology & Water Quality

Templehouse Lake, Cloonacleigha Lough and Killawee Lough, together with their connecting rivers, form part of the much larger Owenmore River catchment. The Owenmore River rises in the Curlew Mountains, to the south-east of this site. Its catchment extends south to the village of Gorteen and eastwards into the Curlews and the river ultimately enters the sea at Ballysadare Bay, as the Ballysadare River. It is fed by a number of tributaries both upstream and downstream of this site. The principal upstream tributary is the Clooneen River which enters the Owenmore river some 4 km south-east of Templehouse Lake. The Clooneen catchment covers the area north-west of Gorteen.

Templehouse Lake reaches depths which range between 2.5m and 7m. Cloonacleigha Lough is shallower with depths ranging between 1.2m and 3m.

As part of its national survey of river water quality the EPA carries out both biological and chemical sampling on the Owenmore River. A biotic index is used to describe biological river quality, with Q5 being the highest value (indicating good water quality) and Q1 the lowest (bad water quality). The following table gives the Q values for two sampling stations on the Owenmore- one upstream of Templehouse Lake and one downstream of the lake.

Year	Upstream of Templehouse Lake	Downstream of Templehouse Lake
1971	Q3	-
1973	Q5	-
1977	Q4-5	-
1980	Q4	Q4
1984	Q4	Q4
1990	Q4-5	Q4
1994	Q4-5	Q4
1997	Q4	Q4
2000	Q4	Q4
2003	Q4	Q4

Appendix V gives results of chemical sampling.

The EPA assessment of the upper Owenmore, following sampling in 2003 (EPA, 2004) states "*The upper Owenmore was satisfactory in 2003……..Water quality was satisfactory upstream and downstream of Templehouse Lake*".

There is no recent data available on lake water quality. A survey by An Foras Forbartha in 1975 noted that in relation to Templehouse Lake "*significant amounts of iron were detected.…… Orthophosphate concentrations were above average in December and raised B.O.D. and nitrate levels indicated contamination by organic waste. Chlorophyll a was low in December but much greater amounts were detected in July reflecting the presence of large populations of the diatom* Melosira. *Another diatom,* Asterionella *and the blue-green form,* Anabaena *were also numerous*" (Flanagan and Toner 1975).

Biological Features

Habitats and Vegetation

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

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

Habitats Found within Templehouse and Cloonacleigha Loughs cSAC

ANNEX I HABITAT TYPE	HABITAT CATEGORY	% AREA
Hard oligo-mesotrophic waters with the benthic vegetation of *Chara* spp. (3140)	Limestone/marl lakes (FL3)	27%
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (3260)	Depositing/lowland rivers (FW2)	5%
	Wet pedunculate oak-ash woodland (WN4)	15%
	Wet willow-alder-ash woodland (WN6)	4%
	(Mixed) broadleaved woodland (WD1)	2%
	Mixed broadleaved/conifer woodland (WD2)	2%
	Conifer plantation (WD4)	Mapped with WD2
	Dry calcareous and neutral grassland (GS1)	2%
	Wet grassland (GS4)	5%
	Raised bog (PB1)	5%
	Cutover bog (PB4)	7%
	Rich fen and flush (PF1)	2%
	Reed and large sedge swamps (FS1)	15%
	Marsh (GM1)	8%
	Drainage ditches (FW4)	<1% Not mapped
	Hedgerows (WL1)	<1% Not mapped
	Stone walls and other stonework (BL1)	<1% Not mapped
	Buildings and artificial surfaces (BL3)	<1%

Annex I Habitats:

Hard oligo-mesotrophic waters with the benthic vegetation of *Chara* spp. (3140) *(27% of total site area)*

This site incorporates three hard-water lakes, the largest of which is Templehouse. This is a shallow lake (maximum depth 7m) on carboniferous limestone, extending to approximately 140 ha. The presence of peaty ground in the catchment gives the hard water a marked colour and significant amounts of iron have been detected (Flanagan & Toner, 1975). Reedbeds grow around the southern and western shores. The rest of the shore is formed of the old lake bed as the lake was lowered by 1.5m in the 1930s (Goodwillie *et al.* 1992). Aquatic vegetation includes yellow water-lily (*Nuphar lutea*), white water-lily (*Nymphaea alba*) and river water dropwort (*Oenanthe fluviatilis*) which are common. Curled pondweed (*Potamogeton crispus*), Canadian waterweed (*Elodea canadensis*), ivy-leaved duckweed (*Lemna trisulca*) and the stonewort *Chara vulgaris* var. *longibracteata* are also present.

The lake is fringed by a variety of habitat types (see below and Map 3).

Cloonacleigha Lough, the second lake is located south of Templehouse Lake. It is approximately 68 ha in extent. It lies among low hills and bog. It has a stony shore over much of its eastern part where the lake falls off quite rapidly with only scattered marginal growth. At the west end the land is almost flat, and peatland which fills the valley forms the lakeshore. Reedbeds occupy extensive areas close to the entry and exit channels of the lake. Aquatic vegetation includes common water crowfoot (*Ranunculus aquatilis*), yellow water-lily, shoreweed (*Littorella uniflora*), spiked water-milfoil (*Myriophyllum spicatum*) and bulrush (*Scirpus lacustris*). Willow moss (*Fontanalis antipyretica*) is present along the shore.

Offshore the substrate is very soft. Perfoliate pondweed (*Potamogeton perfoliatus*), waterweed and spiked water milfoil cover 20-30% of the ground in 2.5m of water. A zone of stoneworts occurs next. Five species have been recorded, *C. aspera*, *C. contraria*, *C.rudis*, *C. virgata* and *C. vulgaris* var. *longibracteata*. Curled pondweed and yellow water-lily, the moss (*Scorpidium scorpioides*) and numerous algal balls (*Cladophora sp*.) are also present.

Located further west is Killawee Lough the third lake in this complex. Linked to the other two by interconnecting rivers, it is small and is fringed by reedbeds which phase into fen and peatland beyond.

Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (3260) *(6% of total site area)*

Approximately 3 km of the Owenmore River, downstream of the point of discharge from Templehouse Lake, is included in the site. In addition approximately 10 km of slow-flowing meandering river channels, connecting Killawee Lough with both Templehouse and Cloonacleigha Loughs, are also included. These are tributaries of the Owenmore and ultimately flow into it through Templehouse Lake.

Due to the nature and character of the landscape through which these flow - low-lying and flat with little gradient – the rivers are slow-flowing and meandering, resulting in the development of reedbeds and emergent vegetation habitats at various stages along the routes.

Floating river vegetation includes curled pondweed, broad-leaved pondweed (*Potamogeton natans*), ivy-leaved duckweed, white and yellow water lily, common water crowfoot, Canadian waterweed, starworts (*Callitriche spp*.) and river water dropwort.

Templehouse Lake with adjacent swamp and woodland habitats (Photo: NPWS)

Other Habitats:

Wet, pedunculate oak-ash woodland (WN4)

Four blocks of this woodland type occur, all at the north-eastern end of the site around Templehouse Lake.

The first area occurs at the north-eastern end of the site. The predominant species at the northern end of this block is ash (*Fraxinus excelsior*) with silver birch (*Betula pendula*), downy birch (*Betula pubescens*) and beech (*Fagus sylvatica*) also present. As one proceeds southwards pedunculate oak (*Quercus robur*) is present with rowan (*Sorbus aucuparia*), yew (*Taxus baccata*) and sycamore (*Acer pseudoplatanus*). Some conifers are interspersed through it. These include Scots pine (*Pinus sylvestris*), Norway spruce (*Picea abies*), grand fir (*Abies grandis*) and larch (*Larix decidua*). The understorey consists of holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*), honeysuckle (*Lonicera periclymenum*) and occasional gorse (*Ulex europaeus*), with plenty of ivy (*Hedera helix*) on trees. Towards the centre the block is dominated by ash and hazel (*Corylus avellana*) with occasional oak. It once again becomes more diverse further south. The woodland extends south to the river and continues eastwards along its northern bank to the boundary of the site. Dense rhododendron (*Rhododendron ponticum*) is also present in places.

The second block of Oak-Ash woodland occurs on the southern side of the Owenmore river on low-lying land between Templehouse Lake at the north-eastern end and the road. It varies from place to place in species composition and contains considerable overall diversity. Ash particularly, and oak are present throughout, with considerable areas of willow, downy birch and rowan and some Scots pine. Other species include beech, sycamore and sitka spruce (*Picea sitchensis*), grand fir and European larch. The understorey includes holly, honeysuckle bramble and ivy. Dense areas of rhododendron occur. The field layer includes heather, bilberry (*Vaccinum myrtillus*), bracken (*Pteridium aquilinum*), polypody fern (*Polypodium vulgare*), and sedges (*Carex* spp). In the dryer areas and particularly around the margins bluebell, primrose, wood anemone (*Anemone nemorosa*), wood sorrel (*Oxalis acetosella*), opposite-leaved golden saxifrage, lords and ladies (*Arum maculatum*), harts tongue fern (*Asplenium scolopendrium*), broad buckler fern, raspberry (*Rubus idaeus*), herb robert, lesser celandine, and bugle (*Ajuga reptans*) occur. It is very wet in places with sphagnum pools. Lichens and mosses including *Polytrichum commune* are abundant.

Natural regeneration of ash, birch and rowan occurs. The woodland phases into alder carr at the north-eastern end close to the lake.

Many tracks have been cut through this area for the purpose of Woodcock shoots in winter.

A well developed ground flora exists, which reflects in places, particularly towards the southern end, the underlying peat. It includes meadowsweet (*Filipendula ulmaria*), purple moor-grass (*Molinia caerulea*), ling heather (*Calluna vulgaris*), bell heather (*Erica cinerea*), bilberry (*Vaccinium myrtillus*) and *Sphagnum papillosum*. The dryer areas have great wood-rush (*Luzula sylvatica*), broad buckler fern (*Dryopteris dilatata*), tormentil (*Potentilla erecta*), bluebells (*Hyacinthoides non-scripta*), great tussock sedge (*Carex paniculata*), red campion (*Silene dioica*), primrose (*Primula vulgaris*), opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), herb robert (*Geranium robertianum*), black spleenwort (*Asplenium adiatum-nigrum*), male ferm (*Dryopteris filix-mas*), lesser celandine (*Ranunculus ficaria*), vincetoxicum (*Vincetoxicum hirundinaria*), dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), columbine (*Aquilegia vulgaris*) and various moss (*Bryophytes*) species.

Cross-leaved heath (*Erica tetralix*), common sundew (*Drosera rotundifolia*), harestail cotton-grass (*Eriophorum vaginatum*) and the mosses *Thuidium tamariscinum*, *Racomitrium lanuginosum* and *Cladonia* sp. are also present, particularly in the southern half.

The woodland phases into, and is in mosaic with, riparian woodland along the floodplain of the river, with a margin of willow (*Salix* sp) along the bank (see below).

Some tracks have been cut through this wood for the purpose of Woodcock shoots.

The third block of this woodland extends from the most northerly point of the site on the northern bank of the Owenmore river south-westward along the western side of Templehouse Lake. It is in mosaic with and phases into other habitats (see map and descriptions below), but is predominantly of this category, being broken by an area of wet grassland in front of Temple House. It is comprised predominantly of ash and pedunculate oak with downy birch and silver birch. Willow, alder (*Alnus glutinosa*), sycamore and beech are also present with occasional yew. Fallen dead and decaying wood remains and natural regeneration, particularly of ash occurs, although grazing is doing some damage to the young growth. Understorey species include hawthorn, holly, hazel, and wild cherry (*Prunus avium*), with dense clumps of rhododendron and cherry laurel (*Prunus laurocerasus*) in places and some snowberry (*Symphoricarpos albus*) also. On the lake side this woodland phases into a margin of willow (with some alder) practically along the length of the lake, but particularly south of Temple House. Ground vegetation includes wood sorrel, foxglove (*Digitalis purpurea*) and golden saxifrage.

A fourth small block of this woodland occurs on the central eastern shore of Templehouse Lake on an Hillfort. It contains a mixture of ash, pedunculate oak, sycamore and beech with occasional Scots pine. Blocks of birch are also present towards the north-eastern end. Shrub species include hawthorn and elder (*Sambucus nigra*). Ground flora includes primrose, pignut (*Conopodium majus*) and sweet vernal grass (*Anthoxanthum odoratum*). It phases into and is fringed by a margin of alder and goat willow (*Salix caprea*) along the shore and ultimately into fen/willow carr (described below).

Wet willow-alder-ash woodland (WN6)

The habitat between the road on its west side and the Owenmore river on its east is a mosaic of woodland types, incorporating willow carr, mixed broadleaved woodland, conifer plantation and immature broadleaved plantation on a low-lying wet site.

At its southern end the fen (described below) phases into this wet willow/birch woodland {goat willow and grey willow (*Salix cinerea*)} and gradually, as one proceeds northwards, becomes more diverse with ash, pedunculate oak, alder and sycamore also present. Ash is regenerating. Fallen willows are left to decay and some are re-growing from a fallen position. This phases into a small block of sitka spruce (described separately below), which at its northern end merges into a young mixed plantation of ash, downy birch and alder on what appears to be a previously cleared site. It reverts once again at the northern side into more diverse mixed woodland, similar in nature to that at the lower end. Dogwood, wild cherry, bird cherry (*Prunus padus*) and elder are also present, with dense clumps of rhododendron and some snowberry in places.

Some tracks have been cleared through the wood.

Ground flora includes bluebells, wood sorrel, common dog violet (*Viola riviniana*), foxglove, ground elder (*Aegopodium podagraria*), ground ivy (*Glechoma hederacea*) and rosebay willowherb (*Epilobium hirsutum*).

A small area with a diversity of epiphytic lichens occurs within this plot.

A second area of carr occurs on the north-eastern margin of Templehouse Lake at the point where the Owenmore river discharges from it. Predominantly of alder, it also contains ash and occasional willow. Ground floor vegetation includes marsh marigold (*Caltha palustris*), meadowsweet, water mint (*Mentha aquatica*), yellow iris (*Iris pseudacorus*), cuckoo flower (*Cardamine pratensis*), mosses and liverworts.

Another area of willow carr with some alder occurs at the point further south on the east side of the lake. With vegetation similar in nature to that of the previously described alder carr it is characteristic of and could, like the former, also be described as fen. It is rich in sedge species which include water sedge (*Carex aquatilis*), bottle sedge (*C. rostrata*), tufted sedge (*C. elata*), bladder sedge (*C. vesicaria*), elongated sedge (*C. elongata*), common sedge (*C. nigra*) and glaucous sedge (*C. flacca*). Other species found here include common reed (*Phragmites australis*), marsh horsetail (*Equisetum palustre*), water horsetail (*E. fluviatile*), marsh Cinquefoil (*Potentilla palustris*), cuckoo flower, lesser spearwort (*Ranunculus flammula*) and bulrush.

A fourth area of dense Willow carr occurs on the western shore just south of Templehouse. This appears to be extending its range, and a margin of willow has developed, practically all along the western shore, extending outwards into the lake, but particularly from this point south.

Along the banks of the Owenmore River, but particularly on the eastern bank, due to regular flooding as a result of fluctuating water levels, a margin of riparian woodland has developed. It comprises goat willow, grey willow, bay willow (*S. pentandra*) and downy birch. The species-rich herb vegetation is characteristic of fen and includes meadowsweet, common valerian (*Valeriana officinalis*), marsh marigold, amphibious bistort (*Polygonum amphibium*), yellow iris, angelica (*Angelica sylvestris*), hemlock (*Conium maculatum*), silverweed (*Potentilla anserina*), marsh bedstraw (*Galium palustre*), wavy hair-grass (*Deschampsia flexuosa*), common reed, reed canary-grass (*Phalaris arundinacea*), nettle (*Urtica dioica*) and the sedges tufted sedge, slender tufted sedge (Carex. *acuta*), water sedge, bottle sedge and carnation sedge (*C. panicea*). Marestail (*Hippuris vulgaris*) is also present.

(Mixed) broadleaved woodland (WD1)

On the eastern side of Templehouse Lake a small woodland of beech, planted in the late 18th Century, remains. Occasional oak and sycamore also occur. There is little understorey or ground flora, except in that part where storm damage has opened up the wood. Here natural regeneration of beech is occurring and herb vegetation includes lesser celandine, primrose, common dog violet, lords and ladies, bluebell, wood sorrel, golden saxifrage, nettle and mosses. There is a fringe of willow and alder along the shoreline. The wood is grazed by sheep.

A second block of this woodland is located at the junction of two roads east of Templehouse Lake. It comprises a mixture of young lodgepole pine (*Pinus contorta*), downy birch and goat willow. It is on peat with heather, sphagnum, lichens and occasional common cottongrass (*Eriophorum angustifolium*) forming the ground flora. The margin and roadside hedgerows comprise ash, oak, rowan, hawthorn, dogwood (*Cornus sanguinea*), and crack willow (*Salix fragilis*)

Mixed broadleaved/conifer woodland (WD2)

Two areas of this habitat occur. The first is on the east side of the Owenmore river at the northern end of the site. It is predominantly a Scots pine and birch mixed woodland with occasional other species present. Ground flora was broadly similar to that of the first block described in the previous sub-section, reflecting the peat soil on which it grows.

The second such site is located on the western side of Templehouse Lake just north of the inflow to it. It has developed on peat. It is predominantly mature Scots Pine, with a variety of other species also present including downy birch, silver birch, rowan, sycamore, larch, grand fir and goat willow. holly and woodbine are present in the understorey with some rhododendron also. Bilberry and mosses are present throughout with heather and bog myrtle (*Myrica gale*) also. A good bryophyte layer exists with *Sphagnum papillosum* and *Sphgnum capillifolum*. *Cladonia ciliata* and *Usnea* sp. also form dense carpets. Common cow-wheat (*Melampyrum pratense*) is locally frequent.

Conifer plantation (WD4)

A small plot of conifers occurs at the north-eastern end of the site. It is comprised predominantly of sitka spruce, with some lodgepole pine also present.

A further small stand of sitka spruce occurs a little further south on the western bank of the Owenmore River. Occasional ash, birch and Sycamore are also present in this block.

Dry calcareous and neutral grassland (GS1)

The area known as The Island at the southern end of Templehouse Lake, now joined to the mainland, comprises dry grassland. Vegetation is typified by sheep's fescue (*Festuca ovina*), sweet vernal grass, perennial ryegrass (*Lolium perenne*), greater plantain (*Plantago major*), birdsfoot trefoil (*Lotus corniculatus*) and yarrow (*Achillea millefolium*). It forms a mound and is surrounded by a narrow margin of low-lying wet grassland with yellow iris and meadowsweet. This extends to a rocky shoreline which is colonized by water lobelia (*Lobelia dortmanna*), water dock (*Rumex hydrolapathum*), silverweed and marsh willowherb (Epilobium palustre).

Wet grassland (GS4)

Wet Grassland occurs at a few locations around this site. At the north-eastern end of the site a wet meadow occurs in the bend of the river on the southern bank. Timothy (*Phleum pratense*), cuckoo flower, meadowsweet, marsh marigold, dandelion, nettle, rushes (*Juncus* spp), and occasional common reed are present.

On the western shore of Templehouse Lake the estate woodland phases into a small area of grassland/parkland between Temple House and the lake.

Across the lake, a little further south, a narrow strip of wet grassland also occurs along the shore. Moss-covered rocks are a feature of this stretch with a margin of trees growing along a low embankment set back from the waters edge. These include ash, alder and sycamore, with birch, goat willow and occasional hawthorn also present. Vegetation includes grasses, meadowsweet, yellow iris, buttercup (*Ranunculus* sp.) and mosses. Another strip of wet grassland occurs a little further south.

The margin around the eastern half of Cloonacleigha Lough is dominated by wet grassland. It is in mosaic with other habitats which includes small pockets of improved grassland from which silage is cut. The small fields, characteristic of this area, are bounded by hedgerows dominated by Hawthorn.

Raised bog (PB1)

Raised bog occurs between the two streams flowing into Cloonacleigha Lough at its south-western end. It was drained in the past. Vegetation in the drier areas is dominated by heather, harestail cotton-grass and Deergrass (*Trichophorum caespitosum*). The ground layer is dominated by Sphagnum, together with bog asphodel (*Narthecium ossifragum*) and bogbean in the wetter areas. Cross-leaved heath, tormentil and heath milkwort (*Polygala serpyllifolia*) are present along with occasional common sundew (*Drosera rotundifolia*), marsh orchid (*Dactylorhiza* sp), marsh bedstraw and bilberry, with clumps of bog myrtle, particularly towards the north-western end. Some goat willow is present close to the western margin.

Cutover bog (PB4)

An area of old cut-over bog occurs at the western extremity of this site. It supports similar vegetation to that of the previously described bog, with great tussock sedge also present. Additional species recorded include bell heather and lousewort (*Pedicularis sylvatica*). Drains are colonized by marsh cinquefoil, ragged robin and meadowsweet.

This bog phases to wet grassland/heath around the margins. The rivers connecting Killawee Lough with the other two lakes flow through habitats dominated by bog.

Three further areas of cut-over occur. The first is a small plot at the north-eastern end of the site at the edge of the woodland, where colonization by birch and pine is occurring. The second is on the banks of the river where it enters Templehouse Lake at the western side. Colonization by trees also occurs here. The final area forms a margin around the north-western and western sides of Cloonacleigha Lough.

Cloonacleigha Lough from the west showing adjacent wetland habitats including cutover bog (Photo: NPWS)

Rich fen and flush (PF1)

An area of fen extends outwards from and surrounds an ox-bow lake on the western bank of the Owenmore river. It supports a rich diversity of vegetation with an abundance of sedges including water sedge, bladder sedge, carnation sedge, bottle sedge and tufted sedge. Vegetation is composed also of meadowsweet, marsh valerian (*Valeriana officinalis*), marsh cinquefoil, marsh pea (*Lathyrus palustris*), ragged robin (*Lychnis flos-cuculi*), yellow loosestrife (*Lysimachia vulgaris*), marsh stitchwort (*Stellaria palustris*), marsh bedstraw, marsh marigold, bogbean (*Menyanthes trifoliata*), cuckoo flower, water mint, water horsetail, yellow iris and occasional nettle.

This extends eastwards in the floodplain of the river along its southern bank in a mosaic of habitats including fen, marsh and wet grassland with some willows also present.

The oxbow lake is gradually filling in and the area of open water diminishing. It is a mosaic of habitats with open water phasing to reedbed/fen around the margins. Aquatic species include ivy-leaved duckweed, common duckweed (*Lemna minor*), horned pondweed (*Potamogeton palustris*), yellow water-lily and white water-lily. Emergent species include common reed, marestail and bulrush.

The reedbeds around the margins of Killawee Lough phase into fen which extends out from the shore and westward, where it subsequently phases to bog. The fen displays good species diversity with meadowsweet, Bogbean, marsh cinquefoil, ragged robin, cuckoo flower, common valerian, mosses and sphagnum present. Swards of sedges including common sedge, brown sedge (*Carex disticha*), bottle sedge and locally abundant tussocks of greater tussock sedge also occur. A young plantation of sitka spruce stops just short of the lake shore on its north-eastern side.

Reed and large sedge swamp (FS1)

Reedbeds have developed at a number of locations around the margins of the lakes and along the river banks. In Templehouse Lake these are most pronounced along the western and southern sides. In Cloonacleigha Lough, with the exception of the eastern side, dense reedbeds, dominated by Common Reed, practically surround the lake. Killawee Lough is fully surrounded by reedbed as is the ox-bow lake. Considerable stretches of the rivers connecting these lakes support dense beds of reed and other emergent vegetation. This is particularly so along those sections where meandering is most pronounced, with the reedbeds also occupying the areas between the bends.

At the western side of Templehouse common reed, common club-rush or bulrush, tufted sedge, water horsetail and marsh horsetail are the main species present. In addition emergent vegetation at the mouth of the in-flowing stream includes branched bur-reed (*Sparganium erectum*), Bog pondweed (*Potamogeton polygonifolius*), river water dropwort, water mint, monkey flower (*Mimulus guttatus*) and reed canary-grass.

Freshwater marsh (GM1)

The southern end of Templehouse Lake comprises a mosaic of habitats, developing since lake levels dropped. It is predominantly marsh phasing to fen, reedbed, wet grassland including rushy fields with grey willow scrub. Species include soft rush (*Juncus effusus*), wavy hair-grass, bottle sedge, tufted sedge, bladder sedge, carnation sedge, water sedge, greater tussock sedge, meadowsweet, cuckoo flower, common reed, marsh bedstraw, creeping jenny (*Lysimachia nummularia*), marsh cinquefoil, nodding bur marigold (*Bidens cernua*) and marsh yellowcress (*Rorippa palustris*).

The river banks comprise a mosaic of habitats representative of those through which they flow, with bog as the predominant type between Kilawee Lough and the other two lakes to the east. However, as the rivers regularly overflow their banks the riparian zone is mainly floodplain comprising dense emergent vegetation and reedbeds and is thus, for simplicity, categorized as marsh. The best such habitats occur where meandering is most pronounced. It may include wet grassland or bog in places with some willows also.

Drainage ditches (FW4)

A number of small drainage ditches occur throughout the site. Flora species occurring in them are incorporated into and listed in the descriptions of the adjacent habitats above.

Hedgerows (WL1) and Stone walls and other stonework (BL1)

Some hedgerows and sections of stone wall occur within the site, either separately or in combination. These generally represent field boundaries and, in some instances, parts of the site boundary. Flora species occurring are incorporated into and listed in the descriptions of the adjacent habitats above.

Buildings and artificial surfaces (BL3)

Templehouse Castle and the Gate Lodge are within the cSAC boundaries. Sections of surfaced and unsurfaced roads and tracks are also included in the site.

Notable Flora:

Higher Plants

Marsh Pea (*Lathyrus palustris*), listed in the Irish Red Data book, (categorised therein as not now rare or threatened) occurs in the site, in the fen adjacent to the ox-bow lake where it is locally abundant and which is the only site in Sligo where it has been recorded (Goodwillie, Buckley, & Douglas, 1992).

Bird Cherry (*Prunus padus*), also a Red Data Book species, occurs on site. It is classified as not now rare or threatened.

Additional species on record for this site are listed in Owenmore River, Proposed Arterial Drainage Environmental Impact Assessment - Goodwillie, Buckley & Douglas, (1992) and in Douglas, Goodwillie, & Mooney, – Notes On The Flora Of The Owenmore Catchment Cos Sligo (H28) And East Mayo (H26), Ir. Nat. J. Vol. 24 No 5 (1993).

All other plant species recorded on the site are listed under the descriptions of the individual habitats above.

Fauna:

Invertebrates

The butterfly, damselfly and dragonfly species listed in the table beneath were the recorded in the site during field surveys in 2002.

ORDER LEPIDOPTERA (butterflies)
Speckled Wood (*Pararge aegeria*)
Orange Tip (*Anthocharis cardamines*)
Ringlet (*Aphantopus hyperanthus*)
Small Tortoiseshell (*Aglais urticae*)
Small White (*Pieris rapae*)
Common Blue (*Polyommatus icarus*)
Cinabar Moth (*Tyria jacobaeae*)
ORDER ODONATA (Damselflies and dragonflies)
Four-spotted Chaser (*Libellula quadrimaculata*)
Ruddy Darter (*Sympetrum sanguineum*)
Common Hawker (*Aeshna juncea*)
Large Red Damselfly (*Pyrrhosoma nymphula*)
Common Blue Damselfly (*Enallagma cyathigerum*)

Fish

Templehouse Lake is a coarse fishery supporting populations of Pike (*Esox lucius*), Bream (*Abramis brama*), Rudd (*Scardinius erythrophthalmus*) and Perch (*Perca fluviatilis*). Eel (*Anguilla anguilla*) are also present. Densities of pike are described by the North Western Regional Fisheries Board as good, with individuals of up to 30lbs present.

Cloonacleigha Lough also supports Pike, Perch and Rudd. Individual Pike of over 20lbs are present. Quality of the Perch is described as good.

Brown Trout (*Salmo trutta*) inhabit the upper stretches of the Owenmore river and its tributaries. They also pass through Templehouse Lake.

Birds

The complex of lakes and river channels which constitute this site makes it important for birds, particularly wintering wildfowl.

Small numbers of **Greenland White-fronted Geese** (*Anser albifrons*) a species listed in Annex I of the EU Bird Directive, have been recorded in the site in recent years (pers comm. Robert Lundy, NPWS).

Whooper Swan (*Cygnus cygnus*) is also listed in Annex I of the EU Bird Directive. A flock of approximately 30 has been recorded on Cloonacleigha Lough, the adjoining river and at Killawee Lough. They move between these sites and Doocastle Turlough and Quarryfield West (pers comm. Robert Lundy).

Numbers for wintering Teal (*Anas crecca*) at 500 make this a nationally important site, and locally important for Wigeon (*Anas penelope*), Mallard (*Anas platyrhynchos*), Tufted Duck (*Aythya fuligula*) and Pochard (*Aythya ferina*).

A single Corncrake (*Crex crex*), a species listed in Annex I of the Bird Directive and in the Red Data Book was recorded in the floodplain of the river close to Cloonacleigha Lough in 1993 (pers comm. Robert Lundy).

The following description is taken from Goodwillie *et al*, 1992:-

"The bird populations that use this whole complex are large, and at least in winter move over it in response to feeding and roosting demands and disturbance. It is likely that Cloonacleigha Lough is largely used as a roosting area, certainly for dabbling duck, and as a refuge during shooting at Templehouse. Wildfowl numbers vary, with a peak of 1248 recorded – the highest total for any inland water body, although the average count was much lower. The dabbling species Teal (max 642), Wigeon (460) and Mallard (200 + in August) were the most numerous with lesser numbers of diving duck recorded including Tufted Duck, Pochard and Goldeneye (Bucephala clangula). A total of twenty species occurred (not named). Templehouse Lough also carried sizeable numbers of birds. The dabbling duck seemed to feed at the edges of the lake but diving duck were also numerous. The peak count of 773 waterfowl included Wigeon (407), Teal, (224), Tufted Duck, Mallard, Goldeneye and Lapwing (Vanellus vanellus). Lapwing (7 pairs) and Oystercatcher (Haematopus ostralegus) (1 pair) nest on the shores of Templehouse Lake, and the wetlands of this catchment support a relatively large wader population, with Snipe (Gallinago gallinago), Curlew (Numenius arquata) and Redshank (Tringa totanus) present".

Mallard and small numbers of Teal and Tufted Duck breed here as do Mute Swan (*Cygnus olor*), Great Crested Grebe (*Podiceps cristatus*), Moorhen (*Gallinula chloropus*), Coot (*Fulica atra*) and Water Rail (*Rallus aquaticus*).

A heronry with up to 21nests - has regularly been located in the Beech woodland on the eastern shore of Templehouse Lake within the site.

Combined with the wetlands the diversity of other habitats within the site attracts and supports a varied avifauna. The woodlands of Templehouse Estate are managed for Woodcock (*Scolopax rusticola*) which breed here and which support commercial shoots over the estate in winter.

Mammals

Otter **(***Lutra lutra***)** a species listed in Annex II of the Habitats Directive frequents the site. It is also listed in the Irish Red data Book where it is classified as internationally important. Evidence in the form of tracks were seen. Its status is unknown.

Badger **(***Meles meles***)**, a species listed in the Irish Red Data Book as internationally important, inhabits the site. Two sets were recorded on the north-eastern shore of Templehouse Lake and evidence of its presence was found elsewhere, particularly in the woodland.

Pine Marten (*Martes martes*) and Red Squirrel (*Sciurus vulgaris*) also occur on site (pers comm. Robert Lundy, NPWS - 2005). The former is listed in the Irish Red Data Book where it is classified as internationally important.

A large colony of Natterer's Bat (*Myotis nattereri*) occurs in Temple House and a colony of Whiskered Bat (*Myotis mystacinus*) occurs in an adjacent farm building. These are both located on the immediate boundary of the site and the bats forage over the site. They are protected under the Habitats Directive and the Wildlife Acts.

Land Use

Land use on the site

Woodland Management

Forestry is the principal activity conducted on the terrestrial area of the site, accounting for the major portion of its land area. The woodlands comprises mainly semi-natural, broadleaved woodland, with smaller pockets of mixed woodland and exotics including young conifers. Management is at a relatively low level of intensity. The woodland also serves a recreational purpose. Hunting has traditionally played, and continues to play, a significant role in the operation and management of the Templehouse Estate which operates woodcock and wildfowl shoots in winter. This activity forms the basis for a niche tourist product with accommodation provided on the Estate.

Management aimed at the maintenance of habitat suitable for breeding woodcock is a feature. A series of tracks are cleared to facilitate the shoots. These are kept open for a period of time and ultimately allowed to re-develop a vegetation cover required by the birds. They are generally reused and rotated. Clearance is restricted mainly to the understorey and scrub which is composed to a large extent of Rhododendron. Some mature trees are felled.

The remaining woodland areas, including riparian woodlands and wet willow are primarily wildlife areas with little, if any, intervention. Access routes to the shore are maintained through these, in some instances, for duck shooting on the lake.

Tobercurry and District Gun Club members hunt over this site. The club has shooting rights, under lease, over the bogs surrounding Cloonacleigha Lough including that at Clooncose.

Nature conservation

In addition to the woodland areas where intervention is kept to a minimum other parts of the site are generally unmanaged or have minimum intervention and are thus effectively devoted to nature. The fen adjacent to the ox-bow lake, and the peatlands adjacent to both Cloonacleigha and Kilawee Loughs and the lakes themselves are included in this category.

Agriculture

The remaining land area, comprising the margin of land along the banks of the rivers, and in part along the lakes shores, is utilized for agriculture, which takes the form of grazing by cattle and/or sheep. It is non-intensive agriculture, generally on unimproved land, some of which lies within the flood plains of the rivers and may incorporate swamp. Some sections of the river banks comprise or phase into peatland in the adjacent property.

The impacts of grazing on the small areas of commonage in the site were assessed by the Commonage Framework Planning Project. Damage caused by grazing was not recorded in these areas.

Fishing

Angling is one of the principal recreational activities pursued on the lakes. Templehouse Lake is a coarse fishery and the fishing rights are privately owned. Templehouse Estate promotes angling and hosts fishing guests. Permission for angling by the public is also granted, although bank fishing is limited due to marsh and willow development along the shore which restricts access. The Estate provides boats for hire. Access for the general public is also available through private land at the south-eastern and south-western ends of the lake.

Cloonacleigha Lough also provides good coarse fishing, although access is restricted due to the nature of the shoreline and limited car parking.

Eel fishing occurs on Templehouse Lake, under licence from the North Western Regional Fisheries Board.

Ballymote & District Angling Club promotes angling on these lakes and in the greater catchment. Together with the Fisheries Board its objective for Templehouse and Cloonacleigha Loughs is to improve access for anglers.

Residential

The Gate Lodge at the entrance to the estate is located within the existing boundary of the site.

Turf cutting

Turf cutting takes place on the north-western shore of Cloonacleigha Lough, extending to the lake shore which is formed of peat. Turf, cut by hopper machine, is also spread at this location.

Dumping

Dumping of household waste occurs in and adjacent to the car-park at the north-eastern end of the site close to Templehouse Bridge.

Land use adjacent to the site

Agriculture

Agriculture is the predominant activity in the hinterland of the site and in the catchment of these rivers. The land is largely unimproved grassland where non-intensive farming in the form of grazing takes place. On small areas of improved grassland silage making also occurs.

Commercial forestry

Within the mosaic of habitats which comprise the catchment a number of young coniferous forest plantations occur. Of particular interest are three such plantations, one immediately adjacent to Killawee Lough, another on the banks of the river connecting it with Templehouse Lake and the third on the banks of the river connecting Kilawee Lough with Cloonacleigha Lough. These three plantations extend right to the boundary of the site.

Turf cutting

A considerable area of land within the catchment comprises blanket bog. There is a tradition of turf cutting here, which is conducted both by hand and by hopper machine.

Residential

Low density housing is a characteristic feature of this rural landscape, with dwellings dotted throughout the countryside surrounding these lakes and in the intervening areas along their feeder streams and connecting rivers. Some of these appear to be no longer occupied.

Drainage

While "arterial drainage" is not contemplated a programme of channel maintenance for "relief of flooding" in the catchment is ongoing. The Owenmore/Arrow Committee for the Relief of Flooding, which was established in 1942 co-ordinates this work.

The work is carried out by Sligo County Council in consultation with the said Committee, subject to funds being provided by OPW. The committee comprises representatives of the angling, farming, land-owning and business communities. The effects of flooding according to this committee are disturbance to wildlife habitats with decreased numbers of breeding birds, damage to spawning beds from siltation and inability to fish 70/80% of the river channel.

Considerable relief of flooding, it is claimed, has resulted from work to date, and the drainage committee sees a need for such work to continue on an ongoing basis, both upstream and downstream, including "maintenance" of tributaries. In addition its objective is to provide access for the development and promotion of angling and tourism.

The committee claims the threat of reduced water levels in the lake arising from such downstream drainage is prevented by the presence of a strip of concrete in the bed of the river under Templehouse Bridge, which controls water level (pers comm. Paddy Joe Hannon, Owenmore/Arrow Committee).

However drainage has potential to adversely impact on this site. Depending on the nature, extent and location of future drainage works there is the possibility of *"a drop in river water levels of 1 – 1.5m and to a stabilization of the lakes at or near summer levels"*. Such stabilization of lake levels *"will have a major impact on fen communities at the west end of Cloonacleigha Lough, in Portinch Bay and near the Island in Templehouse. … The large sedge communities require seasonal flooding to survive. … If drainage is successful their extent will be reduced and what vegetation remains will have a changed composition. Increased grazing pressure on the shores and in the trees nearby will favour grass species over broad-leaved herbs. … The effect on wildfowl will be significant due to a decrease in their feeding area on the lakeshore, but also drainage and reclamation of the river floodplain around Killawee Lough will remove land that supports about 400 wildfowl in winter. The absence of an outfall makes the area around Killawee especially susceptible to shallow floods. If drainage does away with this, in addition to the impact on ducks, it will also curtail the feeding and nesting of waders which area is the major wader site in the catchment. …*

The ox-bow lake area contains a microcosm of the best wetland communities in the whole catchment. … Any drainage which would affect it is likely to result in a significant drop in water levels. The ox-bow itself would dry out and the plant communities would be changed markedly. …

An high but fluctuating water table is essential to maintaining this site in its present form as it is the transition ground between the river and dry land that is of value. Control of water on the downstream side is thus essential" (Goodwillie et al. 1992).

Roads and traffic A network of roads and tracks serve the many dwellings and holdings in the catchment of this site and of the greater hydrological system, generating typical traffic movement and activities associated with their use, upkeep and maintenance.

Past human use

The landscape character of this area is a product of geological history, climatic conditions and human activity. The abundance of archaeological remains both within the site and in the adjacent hinterlands is evidence of a long history of human occupation. Modern land usage, both agriculturally and domestically, has altered and continues to alter the landscape.

Templehouse Estate

A considerable portion of the Templehouse Estate falls within this site. It can be dated back to the 12th Century (possibly 1119) when it was owned by the Templars (a military order which owed its origins to the Crusaders), following which the Hospitallers (a religious group) appear to have obtained possession in the 13th Century by grant from King Edward II. The O'Haras are recorded as owners later in the 13th Century. In 1606 Templehouse was granted by King James to the Crofton family (originating in Lyons, France), and it passed to the Perceval family in 1665 on the marriage of Mary Crofton to George Perceval. Except for a short period (1858–1861) it has, since then to the present day, remained in the possession of the Perceval family.

It is thought that the O'Haras built the original castle in the 13th Century, The church having been built earlier by the Templars. The Perceval family built the original two-story house about 1820 using chisselled and polished limestone from Ballisodare. In 1860 they modified and extended it.

Arterial drainage

"The lake was lowered by 1.5m in the 1930s" (Goodwillie *et al.* 1992). In 1942 the Owenmore/ Arrow Committee was formed. The Committee claims that the original drainage took place earlier (1927), both upstream and downstream of Templehouse Lake.

Drainage work has been ongoing but intermittent, depending on available funding.

A concrete strip was installed in the bed of the Ownemore river under Templehouse Bridge as part of this process to maintain water in this lake at a constant level.

ESB International (ESBI) were consulted and produced a brief report in 1994 identifying the locations on the system which required drainage/clearance (pers comm. Paddy Joe Hannon).

Recorded Monuments and Other Features

The Sites and Monuments Record identifies and lists a number monuments which are located within the boundaries of the cSAC. One – No 26 – forms a complex of six features. The monuments are listed in the following table where the official numbers given in the Record are reproduced. They are shown on Map 4, also identified by these numbers.

MONUMENT NO.	DESCRIPTION	NAT. GRID	TOWNLAND
SL032-198	Crannog	16109/31456	Knockalough
SL032-199	Moated Site	16115/31441	Knochalough
SL032-226	Crannog	16107/31471	Knockalough
SLO33-026001	Hall-house	16180/31824	Templehouse Demesne
SLO33-026002	Bawn	16183/31823	Templehouse Demesne
SLO33-026003	Gatehouse	16183/31825	Templehouse Demesne
SLO33-026004	House	16183/31822	Templehouse Demesne
SLO33-026005	High Cross	16180/31823	Templehouse Demesne
SLO33-026006	Architectural Fragment	16182/31827	Templehouse Demesne
SL033-029	Crannog	16191/31793	Templehouse Lake
SL033-030	Crannog	16184/31774	Templehouse Lake
SL033-042001	Enclosure	16184/31689	Kilbrattan
SL033-042002	Cairn	16184/31689	Kilbratten
SL033-109	Crannog	16136/31489	Cartronroe [Corran By.]
SL033-200	Crannog	16187/31657	Templehouse Lake
SL003-209	Crannog	16131/31739	Templehouse Lake

CONSERVATION VALUE OF TEMPLEHOUSE AND CLOONACLEIGHA LOUGHS cSAC

This site is of conservation significance due to the diversity of habitats present, with two of those listed in Annex I of the EU Habitats Directive. The three lakes in the site support typical aquatic vegetation for hard water lakes. Marginal vegetation is well developed and diverse, and Cloonacleigha Lough has a definite zone of stoneworts (*Chara*) with at least five species.

The second Annex I habitat, water courses with floating river vegetation, represented by sections of the Owenmore river are good examples of this habitat type. Vegetation is characteristic and diverse, with submerged and floating plant species. Parts of the riverine channels have been straightened and deepened but the system is mostly in a natural state.

The site incorporates a diversity of wetland habitats which are complemented by the mixed woodland around Templehouse Lake. It contains the greatest range of wetland vegetation in the catchment and the best development of willow carr, reedbed and tall fen. Nowhere else in Sligo are comparable stands of vegetation to be found. The ox-bow lake area contains a microcosm of the best wetland communities in the whole catchment. The site is important, and provides ideal habitat for waterfowl, particularly dabbling duck species. It holds nationally important numbers of Teal.

Whooper Swan and Greenland White-fronted Goose, both listed in Annex I of the EU Birds Directive, have been recorded here and Otter, listed in Annex II of the EU Habitats Directive, frequents the site.

Two plant species of particular interest, and listed in the Irish Red Data Book, are found in the site, namely Marsh Pea and Bird Cherry.

MANAGEMENT FRAMEWORK

Conservation Objectives

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

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

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

The favourable conservation status of a species is achieved when:

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

Objective 1:	To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; Hard oligo-mesotrophic waters with the benthic vegetation of *Chara* spp. (27% area of the site) and water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (6% area of the site)
Objective 2:	To maintain the extent, biodiversity and species richness of the site
Objective 3:	To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Management Issues

The main management issues identified for this site are listed below. They are in alphabetical order.

- **Agriculture**
- **Arterial drainage**
- **Dumping**
- **Housing development**
- **Lack of information**
- **Turf cutting**
- **Willow encroachment**
- **Woodland management/rhododendron infestation**

Agriculture

Agricultural practices such as slurry spreading and fertiliser application within and adjacent to the site have the potential to adversely impact on water quality.

Arterial drainage

Routine maintenance of channels and "relief of flooding" in the catchment is an on-going process, subject to funds being provided. The threat of larger scale arterial work also exists, and any drainage work has potential to adversely impact on the site.

Dumping

Dumping of household waste occurs at the car-park adjacent to Templehouse Bridge.

Housing development

The cumulative impact of discharges from individual septic tank systems has potential to impact on water quality. This is a matter primarily for the Local Authority in the exercise of its planning functions.

Lack of information

Information regarding the quality of water in these three lakes is insufficient. Base-line data and trends are lacking.

The site is not included in the Irish Wetland Bird Survey (I-WeBS) annual survey with the result that accurate up to date records are not available on bird populations utilising the site.

The status of other wildlife on the site is unknown. This includes the White-clawed Crayfish (*Austropotamobius pallipes*), a species listed in Annex II of the Habitat's Directive and for which there is a record on the Owenmore River although the location is not specified.

Turf cutting

Turf cutting occurs in the catchment which, in addition to diminishing the conservation potential of the area, has potential for siltation of and run-off into the hydrological system.

Willow encroachment

The natural development and spread of Willow and reedbed along the western shore of Templehouse Lake curtails access to the Estate boathouse and impedes access to the shore for fishing. Management of the estate requires a certain level of control to facilitate the commercial operation of the estate.

Woodland management/rhododendron infestation

Within the site the existing woodland management regime, while generally sympathetic to wildlife conservation, is designed with the principal objective of maintaining a population of Woodcock for the purpose of winter shoots, which contribute to and are a crucial part of the commercial operation of Templehouse Estate. The overall management of the forest within the site might ideally be conducted within the framework of the Native Woodland Scheme for which it is suited.

The presence of considerable areas of dense stands of the exotic invasive rhododendron reduces the potential wildlife value of the site and requires specific dedication and resources to address it.

The developing coniferous forest plantations adjacent to the site have potential to impact adversely on water quality.

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.

Establish a monitoring regime

The monitoring regime for the site will comprise:

Water quality monitoring

Water quality of the Owenmore river is monitored by the EPA.

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

NPWS will liaise with the EPA, 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 site will be done by, or on behalf of, the staff of the Monitoring Section of the NPWS or staff working to NPWS in accordance with the procedures laid down by that section.

Protocols for monitoring Templehouse and Cloonacleigha Loughs 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 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

Specific Strategies

Objective 1.

To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status; Hard oligo-mesotrophic waters with the benthic vegetation of *Chara* spp. (27% area of the site) and water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (6% area of the site)

Strategies:

1.1 Ensure adequate effluent treatment

NPWS will encourage Sligo County Council to ensure that adequate effluent treatment facilities are provided within the Owenmore Catchment area, particularly in relation to phosphorous reduction.

1.2 Control drainage operations

NPWS will consult with Sligo County Council, OPW, NWRFB and the Owenmore/Arrow Committee for the Relief of Flooding. The objective of such consultation will be to:

- communicate the sensitivity of the site, the conservation requirements of the listed species and habitats and the threats posed by inappropriately timed maintenance work

- determine the nature and extent of any future drainage proposals, evaluate the impact of the operations and to reach consensus on methods and timing

Objective 2.

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

Strategies:

2.1. Encourage participation in Native Woodland Scheme

NPWS will encourage the use of the Native Woodland Scheme. Where appropriate, it will liaise with landowners with the aim of agreeing strategies via this Scheme. It will seek to:

- remove exotics especially rhododendron

- encourage natural regeneration

- sensitively manage the understorey and scrub to maintain suitable habitat for woodcock and to allow traditional shoots to continue

- erect/maintain fencing necessary for grazing control

- sensitively maintain/improve access through the woodland to the shore, for shooting and fishing purposes.

2.2 Ensure best practice during woodland management and forestry operations

NPWS will liaise with the Forest Service to ensure that good forestry practices are adhered to in the area affecting the site, and that where necessary, sediment traps are installed to prevent run-off into watercourses.

2.3	**Maintain suitable grazing regimes**	The traditional method of vegetation management on the grassland, and other riparian habitats has been grazing by cattle and sheep. This practice should continue. However, stock must be kept at a level compatible with the sustainable management of these habitats – that which controls the vegetation and encourages diversity but does not cause overgrazing, damage or poaching. Stock should be removed from the sensitive wet habitats in winter.
2.4	**Control turf cutting**	Most areas of active turf cutting are not included in the cSAC. Where areas of active cutting lie within the less sensitive areas of the site cutting may continue. Machine cutting other than the use of "sausage machines" will normally be permitted.
2.5	**Manage for fisheries/amenity**	The lakes within this site provide coarse fishing for local and visiting anglers. There is consensus on the need for improved access to facilitate the pursuit of this activity. Subject to consultation and agreement between landowners, NWRFB, NPWS and, where appropriate, Sligo County Council access routes through contiguous land should be agreed and appropriate lake shore clearance and development carried out to facilitate such pursuit.
2.6	**Control dumping**	NPWS will determine the scale of dumping at the car park close to Templehouse Bridge and will liaise with Sligo County Council to ensure that dumped material is removed.
2.7	**Conduct surveys**	Populations, breeding status and nest locations will, where possible, be recorded on an annual basis, with particular emphasis on wintering wildfowl. Liaison with interest groups and other relevant people is necessary in order to co-ordinate work on bird counts and information gathering on breeding and wintering wildfowl. NPWS will liaise with Birdwatch Ireland with the aim of having the site incorporated into IWeBS. NPWS will seek to have a survey conducted to ascertain the further details of the bat roosts in Temple House, their population size and status. NPWS will conduct a survey to determine the presence, or otherwise, and the current status of Freshwater Crayfish on this site.

Objective 3.

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

Strategies:

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

Zoning

Note: Zoning is the division of a nature conservation site and neighbouring areas into a number of sub-units. Four types of zones are identified (not necessarily all occurring within a site): A, B and C are zone types within the site. D is a zone type outside the site where activities may have an impact on the site (See Map 5). 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
Lakes, rivers, reed and large sedge swamp and raised bog
Strategies 1.1, 1.2, 2.4, 2.5, 2.7, 3.1 and the general strategies apply.

2A: MAINTENANCE AREAS WITH LIMITED MANAGEMENT INTERVENTION
Rich fen and flush, wet grassland, dry calcareous and neutral grassland, freshwater marsh and cutover bog
Strategies 1.2, 2.3, 2.4, 2.5, 2.7, 3.1, 3.2 and the general strategies apply.

Zone B: Active Management

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

B: Woodlands
Strategies 1.2, 2.1, 2.2, 2.7, 3.1 and the general strategies apply.

Zone C: Intensive use Zone

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

C: Buildings and roads
Strategies 2.6, 3.1 and the general strategies apply.

Zone D: Impact Zone

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

D1: Conifer plantations

D2: Peat cutting areas

D3: Concentrations of houses/intensive agriculture

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	Ensure adequate effluent treatment	NPWS to encourage Sligo Co. Co. to ensure adequate effluent treatment facilities are provided	NPWS/Co. Co.			
1.2	Control drainage operations	NPWS to consult with Sligo Co. Co., OPW, NWRFB, Owenmore/Arrow Committee for the Relief of Flooding	NPWS/ Agencies			
2.1	Encourage participation in Native Woodland Scheme	Liaison with landowners to encourage woodland management via NWS	Owner/NPWS /Forest Service			
2.2	Ensure best practice during woodland management and forestry operations	NPWS to liaise with Forest Service to ensure adherence to best practice	NPWS/land owners/Forest Service			
2.3	Maintain suitable grazing regimes	Continue traditional sustainable grazing regime	Land owners			
2.4	Control turf cutting	Minimise any impact of turf cutting	Land owners/ NPWS			
2.5	Manage for fisheries/amenity	Agree programme for fishery access and development	Land owners/ Agencies			
2.6	Control dumping	NPWS to liaise with Co. Co. re removal of dumped material	Local Authority/ NPWS			
2.7	Conduct surveys	Conduct or commission surveys of fauna	NPWS			
3.1	Liaise with interested parties	Initiate and maintain liaison with all interested parties	NPWS			
3.2	Liaise with REPS Planners	REPS planners to consult NPWS re REPS plans	REPS Planners			

APPENDIX I: GLOSSARY

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

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

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

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

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

ALGAE - Simple plants that are not differentiated into roots, stems and leaves and have no true vascular system. They can be microscopic, or very large and are capable of photosynthesis. They can be found in most habitats but the majority occurs in freshwater or marine environments.

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.

ALLUVIAL – Pertaining to sediment transported and deposited by a flowing river (i.e. alluvium)

ALTITUDE - Vertical height above sea level.

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

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

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

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

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

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

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.

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

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

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

ASSEMBLAGE - A collection of organisms.

AVIFAUNA – Birds

BASEFLOW – The flow of water in a river or stream derived from groundwater or through-flow into the surface watercourse.

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

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

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

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

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

BOD – Biological Oxygen Demand. A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. BOD is used as an indirect measure of the concentration of biologically degradable material present. It is used as an indicator of levels of organic pollution, where the greater the BOD, the greater the degree of pollution.

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

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

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

CANOPY LAYER - The tallest tree layer in a wood.

CARR - Shrub or woodland communities growing in waterlogged ground.

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.

CHERT – A hard siliceous rock that is usually black or dull in colour, splinters easily and fractures along flat planes. It occurs as bands or nodules in sedimentary rocks, especially limestone. Flint is an example.

CHLOROPHYLL – A green pigment in plants that absorbs energy from sunlight, enabling them to convert carbon dioxide and water into carbohydrates using the process of photosynthesis.

COARSE FISH - Freshwater fish other than salmon, trout (including rainbow trout and char) or eels.

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

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

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

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

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

DAF – The Department of Agriculture and Food.

DEHLG - Department of Environment, Heritage and Local Government

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.

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

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

ENVIRONMENT – The biological and physical conditions in which an organism lives.

EPA – Environmental Protection Agency

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

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

EUTROPHIC – Having high levels of nutrients or primary productivity.

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

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

EVAPOTRANSPORATION - Water loss to the atmosphere from soil (evaporation) and vegetation (transpiration). The potential evapotranspiration may be calculated from physical features of the

environment such as wind speed and temperature. The actual evapotranspiration will commonly fall below the potential depending on the availability of water from precipitation and soil storage.

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

FAUNA - Animal life.

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

FEN – A peat-forming wetland system that is fed by groundwater or moving surface waters.

FINFISH - The collective term used to describe fish such as salmon, trout, arctic char, eels and turbot.

FLORA - Plant life.

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.

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

GAME FISH - Salmonid fish, i.e. trout and salmon.

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.

HERBICIDE - A chemical or biological preparation which kills plants.

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

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

IMPEDED DRAINAGE - A limited through flow of water.

IMPERMEABLE - Does not allow the passage of water.

INSECTICIDE - A chemical preparation which kills insects.

INVERTEBRATES - Animals without backbones.

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

LEPIDOPTERA - Moths and butterflies.

LEACHING – The process by which water removes soluble components from soil.

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

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

MACRO INVERTEBRATES – A collective term generally used to describe invertebrates in a sample that are visible to the naked eye- these may include insects, snails and worms.

MACROPHYTES - Rooted and floating aquatic plants

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

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.

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

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

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

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

NATIVE WOODLAND SCHEME – An initiative aimed at protecting and expanding Ireland's native woodland resource. There are two elements in the scheme: native woodland conservation and native woodland establishment, each with its own grant and premium levels.yhe scheme is administered by the Forest Service, under the auspices of the Department of Agriculture and Food.

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.

NATURAL HERITAGE AREA – Designated areas that are important for wildlife conservation. Some of these sites are small, such as roosting areas for rare bats; others can be large such as a blanket bog or a sand dune system.

NGO - Non-Governmental Organisation.

NHA - Natural Heritage Area.

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

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

NPWS - National Parks and Wildlife Service

NR – Nature Reserve

NRFB - Northern Region Fisheries Board.

NWS – Native Woodland Scheme

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.

OPEN SEASON – A specified period of time when a quarry species may be hunted.

ODONATA – Dragonflies and Damselflies.

ORGANISM - Any living thing.

OS – Ordnance Survey.

PASSERINE – Of or relating to the largest order (Passeriformes) of birds, which includes more than half of all living bird species and consists primarily of perching songbirds.

PEAT CUTTING BY HAND - See hand cutting of peat.

PEAT CUTTING BY MACHINE - See mechanical peat extraction.

PER-ANNUM - Each year.

PERMEABILITY - The capacity of a rock to transmit fluid.

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.

PHOTOSYNTHESIS – The process by which plants use light energy to convert carbon dioxide and water into carbohydrates. Oxygen is evolved during this process.

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

PODZOL – An acid soil, characteristically with a thin organic layer above a highly leached mineral layer.

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.

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

Q-VALUE – A biological index of river water quality ranging from Q5 (good water quality) to Q1 (bad water quality).

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

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

RECHARGE - The downward movement of water from the soil to the water table.

RECLAIMED LAND - this is applied to lands which have been modified from their natural state by intervention such as: a) drainage, b) bulldozing, c) clearance of scrub, d) infilling of wetland, e) ploughing and reseeding.

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

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

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

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

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

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

RIPARIAN – Pertaining to the banks of natural watercourses

SAC – Special Area of Conservation

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

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

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

SPA- Special Protection Area

SPECIAL AREA OF CONSERVATION – Areas designated for nature conservation at a European level. SACs have been selected from the prime examples of wildlife conservation areas in Ireland. Their legal basis from which selection is derived is The Habitats Directive (92/43/EEC of the 21st May 1992).

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

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

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

STRATIFICATION - Arrangement in layers: differentiation of horizontal layers in soils.

SUCCESSION – Directional change/sequential development of vegetation e.g. from open water to fen to woodland.

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.

TAXON – Any grouping within the classification of organisms (plural = taxa)

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

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

TILL - Unconsolidated, unsorted glacial deposits.

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

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).

TURBARY – Refers to the right to harvest turf.

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. 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 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: 7

O.S. Discovery (1:50,000) map: 25

O.S. 6 inch (1: 10,560) map: SL 32, 33

Databases :

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

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

Photographic Coverage:

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

Aerial Photos: WILD 15/4 UAG-S No13204 152,93 (7706)

Relevant Legislation:

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

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

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

Local Government (Planning and Development) Acts 1963-2002.

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APPENDIX III: CLIMATE

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

APPENDIX IV: PLANNING POLICIES

In addition to those outlined in the body of this plan the following policies, as outlined in the Sligo County Development Plan 2005 – 2011, are relevant to this site and its hinterland:

Under Section 7.6.1.4 Lake Water Quality it is stated that "*it is the Council's objective to maintain or improve the quality of all lakes within the County, and to comply with the terms of the Phosphorous Regulations*". The water quality objectives are further outline in Section 7.6.1.6 as follows:

A. Ensure the continuation of measures to enforce water pollution and waste management legislation.

B. Seek to achieve consistency between development control and environmental pollution control measures.

C. Aid in the establishment of catchment management committees to prepare catchment management plans. These committees should consist of statutory bodies, with responsibilities for environmental protection, and relevant community groups.

D. Require farmers in high-risk areas to prepare nutrient management plans.

E. Introduce bye-laws under the Local Government (Water Pollution)(Amendment) Act 1990, where it is considered necessary for the regulation of agriculture/forestry activities.

F. Continue monitoring, auditing and reviewing County Sligo's environmental status with regard to the water quality of rivers, lakes and estuarine and coastal waters.

G. Strictly limit and control new development in or near the catchment areas of water bodies, particularly salmonid rivers and those that are the source of drinking water supplies.

H. Protect the quality of estuarine and coastal waters, by controlling land-based discharges to these waters.

I. Achieve annual Blue Flag Status on Sligo's three designated bathing water beaches.

J. Prepare a Groundwater Protection Scheme for the County in conjunction with the GSI.

K. Maintain satisfactory water quality and improve all unsatisfactory waters in the County.

L. Participate in the Western River Basin District project as part of the implementation of the EC Water Framework Directive (2000/60/EC)

M. Implement the Measures Report prepared under the Local Government (Water Pollution) Act 1977 (Water Quality Standards for phosphorus) Regulations 1998.

N. Safeguard water quality by restricting development that is likely to lead to its deterioration.

O. Safeguard drinking water sources by restricting afforestation and agricultural, commercial, industrial and domestic development within their catchment (a list of sources is included).

P. Prepare and enforce Source Protection Plans for drinking water catchments within the county.

Q. All discharges to waters and sewers shall be licensed in accordance with the provisions of the Local Government (Water Pollution) Acts 1977 & 1990.

APPENDIX V: WATER QUALITY DATA

Data from EPA web-site www.epa.ie

Station No: 0400 **Location:** Bridge upstream of Templehouse Lake **Period:** 1995-1997

Parameter	Parameter Units	Minimum	Median	Maximum	No. of Samples
B.O.D	mg/l O^2	1.0	1.9	5.2	14
Chloride	mg/l Cl	15	20	23	14
Colour	Hazen	50	138	250	14
Conductivity	µS/cm	225	373	494	14
Dissolved Oxygen	mg/l O^2	7.0	10.1	11.8	13
Dissolved Oxygen	% Saturation	68	86	97	14
Ortho-Phosphate	mg/l P	0.03	0.04	0.10	14
Oxidised Nitrogen	mg/l N	0.2	0.7	1.7	28
pH	pH	7.2	7.6	8.3	14
Temperature	°C	4.1	11.1	14.3	13
Total Ammonia	mg/l N	0.04	0.06	0.10	14
Un-Ionised Ammonia	mg/l NH^3	0.000	0.001	0.003	13

Station No: 0400 **Location:** Bridge upstream of Templehouse Lake **Period:** 1998-2000

Parameter	Parameter Units	Minimum	Median	Maximum	No. of Samples
B.O.D	mg/l O^2	0.8	1.5	3.2	19
Chloride	mg/l Cl	16	20	28	19
Colour	Hazen	33	107	175	19
Conductivity	µS/cm	261	435	550	19
Dissolved Oxygen	mg/l O^2	7.7	9.5	11.5	18
Dissolved Oxygen	% Saturation	77	88	109	18
Ortho-Phosphate	mg/l P	0.01	0.04	0.07	19
Oxidised Nitrogen	mg/l N	0.3	0.5	0.9	19
pH	pH	7.5	7.9	8.4	19
Temperature	°C	3.9	10.4	19.8	19
Total Ammonia	mg/l N	0.01	0.05	0.21	19
Un-Ionised Ammonia	mg/l NH^3	0.000	0.001	0.005	19

Station No: 0500 **Location:** Bridge downstream of Templehouse Lake **Period:** 1995-1997

Parameter	Parameter Units	Minimum	Median	Maximum	No. of Samples
B.O.D	mg/l O^2	1.3	1.7	4.7	14
Chloride	mg/l Cl	17	20	24	14
Colour	Hazen	50	125	200	14
Conductivity	µS/cm	248	382	492	14
Dissolved Oxygen	mg/l O^2	8.0	9.3	11.9	13
Dissolved Oxygen	% Saturation	64	86	110	14
Ortho-Phosphate	mg/l P	0.01	0.03	0.08	14
Oxidised Nitrogen	mg/l N	0.1	0.7	1.7	28
pH	pH	7.3	7.8	8.4	14
Temperature	°C	5.5	11.1	14.1	13
Total Ammonia	mg/l N	0.02	0.05	0.14	14
Un-Ionised Ammonia	mg/l NH^3	0.000	0.001	0.003	13

Station No: 0500 **Location:** Bridge downstream of Templehouse Lake **Period:** 1998-2000

Parameter	Parameter Units	Minimum	Median	Maximum	No. of Samples
B.O.D	mg/l O^2	0.8	1.3	2.7	19
Chloride	mg/l Cl	16	19	25	19
Colour	Hazen	32	72	175	19
Conductivity	µS/cm	202	423	544	19
Dissolved Oxygen	mg/l O^2	6.7	10.2	11.9	18
Dissolved Oxygen	% Saturation	74	90	113	18
Ortho-Phosphate	mg/l P	0.01	0.03	0.05	19
Oxidised Nitrogen	mg/l N	0.0	0.4	1.0	19
pH	pH	7.6	8.1	8.6	19
Temperature	°C	4.1	11.0	20.0	19
Total Ammonia	mg/l N	0.01	0.04	0.09	19
Un-Ionised Ammonia	mg/l NH^3	0.000	0.001	0.003	19

APPENDIX VI: NOTIFIABLE ACTIONS

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

- Notifiable Action 2.2 Dry lowland grasslands
- 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 6.1 Rivers or streams.
- Notifiable Action 6.2 Lakes, ponds, canals,
- 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

HABITAT TYPE 2.2

DRY LOWLAND GRASSLANDS

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

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

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

HABITAT TYPE 2.2

DRY LOWLAND GRASSLANDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
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	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting	removal of soil, mud, gravel, sand or minerals
adding lime/adding fertiliser of any sort to areas not previously fertilised/ applying fertiliser which would increase the level of nitrogen in the soil/applying fertiliser which would increase the level of phosphorous in the soil/ applying phosphorous to soils which already have in excess of the REPS index 2 levels mowing grass before the 30th June (*Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply)*	developing roads or car parks
burning of vegetation /ploughing or cultivation of lands which have not been so managed for the last 20 years	construction of fences, buildings or
reclamation, infilling, or land drainage/ reseeding, planting of trees or any other species use of any pesticide or herbicide	embankments
dumping, burning or storing any materials	afforestation
alteration of the banks, bed or low of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)/introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

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

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

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

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

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

HABITAT TYPE 2.3

WET LOWLAND GRASSLANDS

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

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

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

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

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

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

HABITAT TYPE 4.1

RAISED BOG, CUTAWAY BOG AND BOG WOODLAND

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

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

HABITAT TYPE 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	**SECTION B**
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.	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

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
grazing of livestock above a sustainable density (as defined in approved farm plans)	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung	any activity which might cause pollution of the fen
changing of traditional use from hay meadow (to either grazing or silage making), or from grazing to silage cutting	removal of soil, mud, gravel, sand or minerals
adding lime within 50m of the fen or a water course running into it	developing roads or car parks
adding fertiliser of any sort within 50m or a water course running into it	construction of fences, buildings or embankments
extracting water for irrigation or other purposes	afforestation
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)	
supplementary feeding of stock	
operation of boat angling or shore angling business	
restocking with fish.	
reclamation, infilling, ploughing or land drainage within 50m of the fen	
reseeding, planting of trees or any other species within 50m of the fen	
use of any pesticide or herbicide within 50m of fen	
dumping, burning or storing any materials within 50m of the fen	
alteration of the banks, bed or flow of watercourses within the fen or running into or out of it	
harvesting reed or willow	
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 necessary for the Minister for The Environment, Heritage and Local Government to restrict existing activities. In these cases compensation will be payable for actual losses arising out of any such restriction. In the event of restrictions being

imposed by the Minister for The Environment, Heritage and Local Government, an appropriate appeals procedure will be put in place.

HABITAT TYPE 5.1

WOODLANDS

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

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

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

HABITAT TYPE 5.1

WOODLANDS

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

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

HABITAT TYPE 6.1

RIVERS OR STREAMS

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

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

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

HABITAT TYPE 6.1

RIVERS OR STREAMS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT grazing of livestock above a sustainable density (as defined in approved farm plans) within 30m of the river or stream/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung within 30m of the river or stream supplementary feeding of stock within 30m of the river or stream/adding lime within 30m of the river or stream/adding fertiliser of any sort within 30m of the river or stream extracting water for irrigation or other purposes 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	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities. any activity which might cause pollution of the river or stream removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments construction or operation of an aquaculture facility. fishing for eels or salmon bank maintenance and grading creation of weirs and dams

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

HABITAT TYPE 6.2

LAKES, PONDS AND CANALS

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

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

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

HABITAT TYPE 6.2

LAKES, PONDS AND CANALS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
grazing of livestock above a sustainable density as defined in approved farm plans) within 50m of the lake, pond or canal	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung	any activity which might cause pollution of the lake, pond or canal
supplementary feeding of stock within 50m of the lake, pond or canal	removal of soil, mud, gravel, sand or minerals
adding lime within 50m of the lake, pond or canal /adding fertiliser of any sort within 50m of the lake, pond or canal	developing roads or car parks
extracting water for irrigation or other purposes	construction of fences, buildings or embankments
operation of boat angling or shore angling business/ restocking with fish.	construction or operation of an aquaculture Facility.
within 50m of the lake, pond or canal: reclamation, infilling, ploughing or land drainage	fishing for eels or salmon
reseeding, planting of trees or any other species /removal of trees or any aquatic vegetation/use of any pesticide or herbicide in the lake, pond or canal or within 50m of the lake, pond or canal	bank maintenance and grading
dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them.	creation of weirs and dams
dumping, burning or storing any materials within 50m of the lake pond or canal including the land spreading of used pesticides (e.g. sheep dip).	
alteration of the banks, channel, bed or flow of the lake, pond or canal or of watercourses running into or out of it	
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 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	**SECTION B**
Please note that the activities listed in *Section A overleaf* are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in *Section B* overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

HABITAT TYPE 6.3

MARSHES AND REEDBEDS

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

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

HABITAT TYPE 7.1

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

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
disturbance of bats	developing leisure facilities including sports pitches, caravan or camping facilities.
operation of commercial recreation facilities (e.g. bird watching tours)	developing roads or car parks
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	construction of fences, buildings and embankments
any other activity of which notice may be given by the Minister from time to time	afforestation

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

APPENDIX VII: COMPENSATION PROCEDURES

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

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

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

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

Rural Environment Protection Scheme (REPS)

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

NPWS Farm Plan Scheme

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

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

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

APPENDIX VIII: NATIONAL PARKS AND WILDLIFE SERVICE MANAGEMENT STAFF

Conservation Ranger

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Regional Manager

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National Parks and Wildlife Service

The Department of the Environment, Heritage and Local Government

7 Ely Place,

Dublin 2

Phone Lo Call 1890 202021, (01) 8882000

Fax 01 8883272

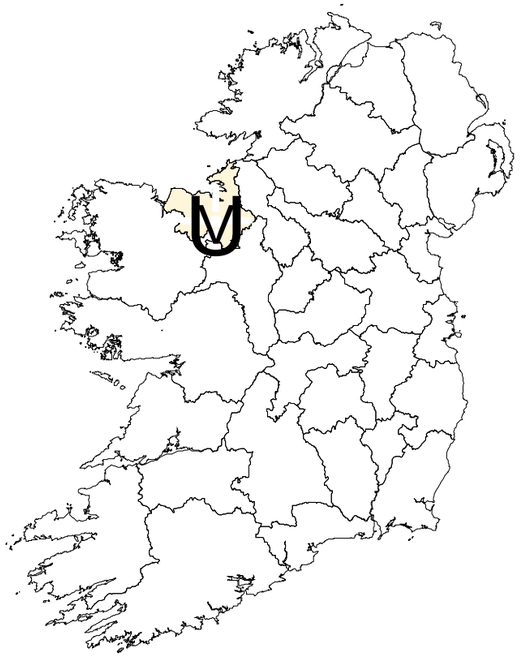
www.npws.ie

CEANTAR SPEISIALTA CAOMHNAITHE
CANDIDATE SPECIAL AREA OF CONSERVATION

TEMPLEHOUSE AND CLOONACLEIGHA LOUGHS 000636

Boundary Version 1.01
Date: September 2006

O.S. sixinch sheets: SL-032, 033

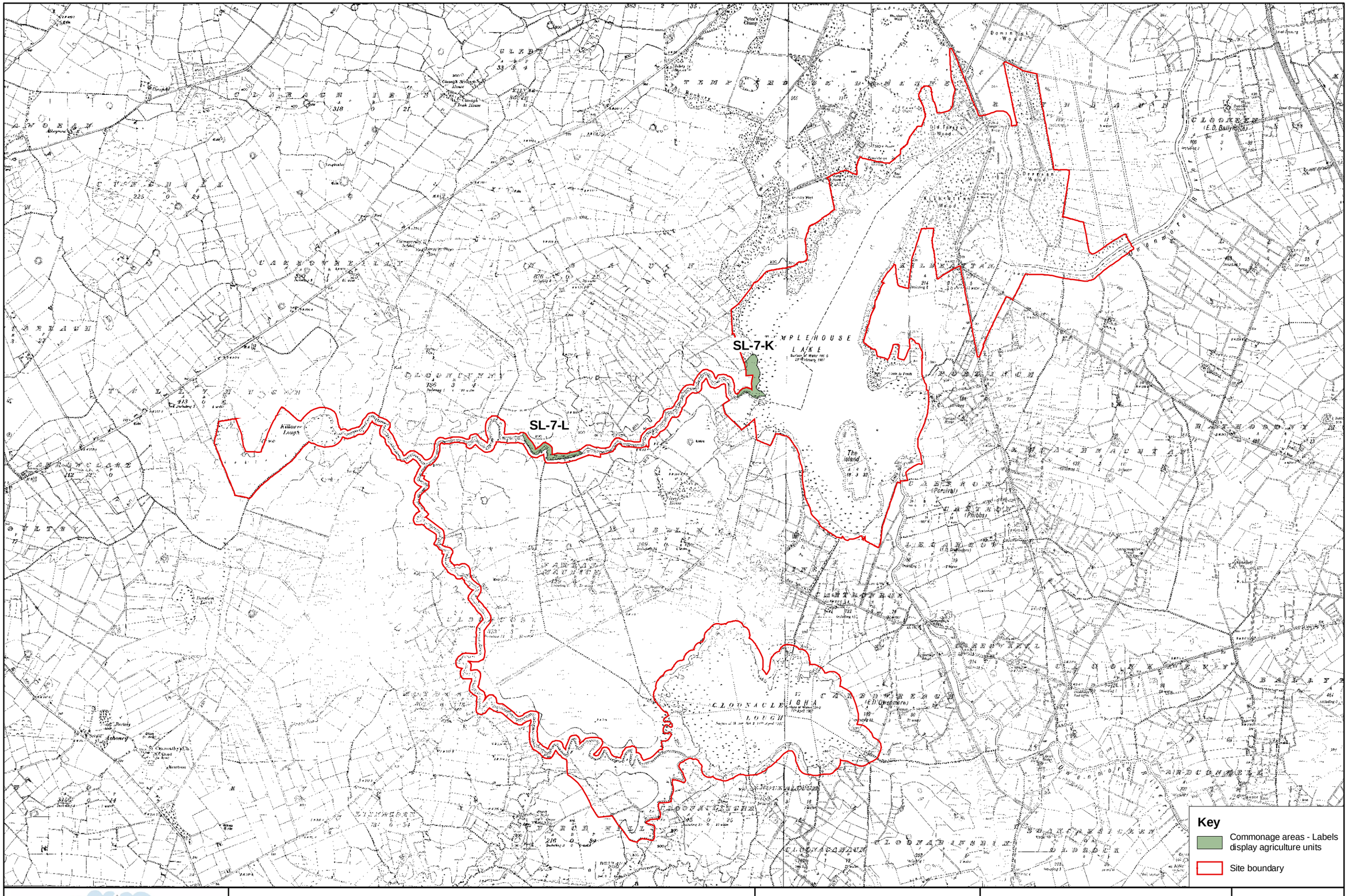


MAP 1
SITE LOCATION AND BOUNDARY

SCALE: 1: 25.000
0 125 250 500 Meters

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

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



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

CEANTAR SPEISIALTA CAOMHNAITHE
CANDIDATE SPECIAL AREA OF CONSERVATION

TEMPLEHOUSE AND CLOONACLEIGHA LOUGHS

O.S. sixinch sheets: SL-032, 033

0 250 500 1,000 M

1:22,514

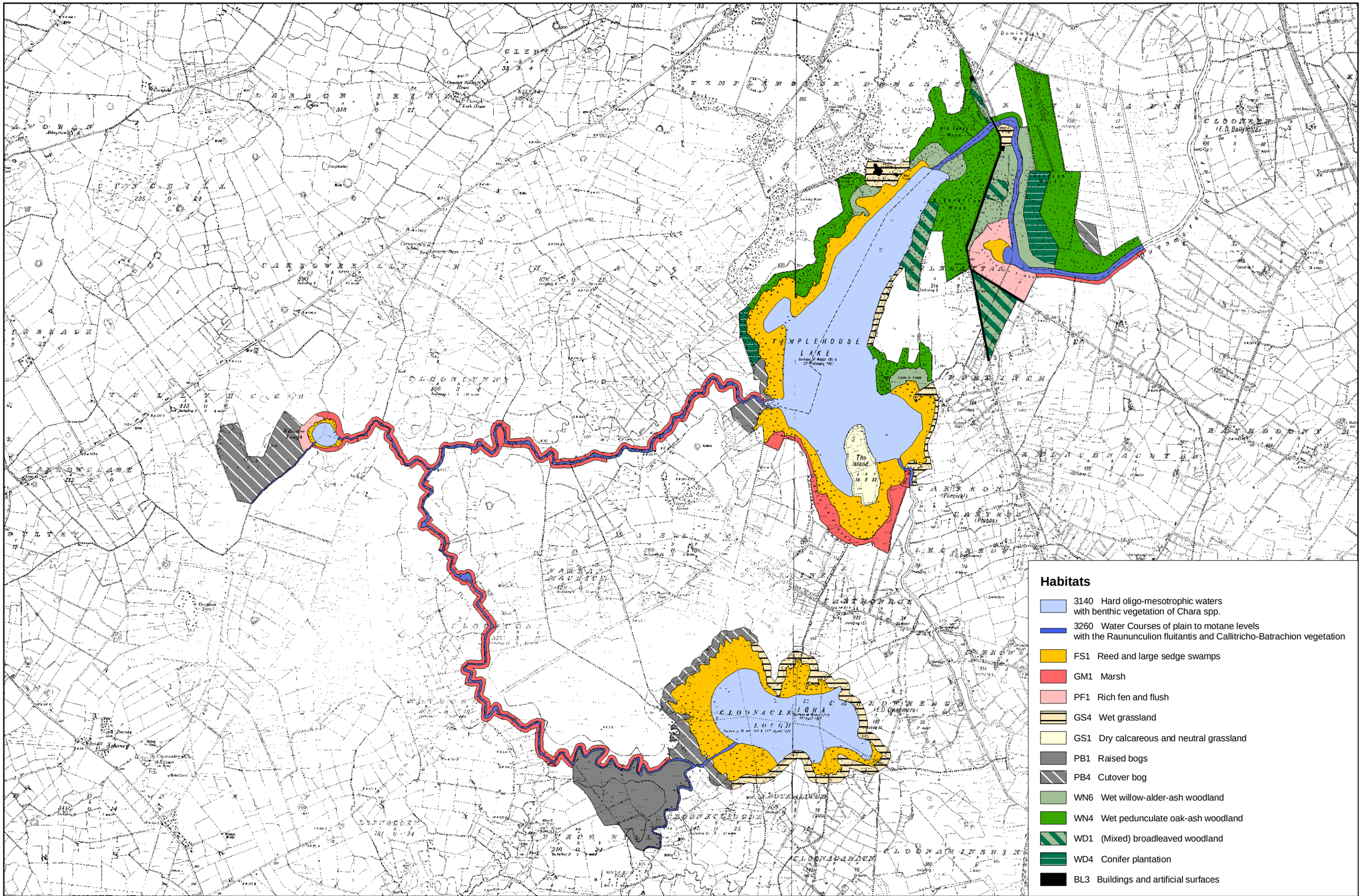
MAP 2: COMMONAGE

Map to be read in conjunction with conservation plan.

SITE CODE

cSAC 000636
Version 1.01

Date:
September 2006



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CANDIDATE SPECIAL AREA OF CONSERVATION

TEMPLEHOUSE AND CLOONACLEIGHA LOUGHS

O.S. sixinch sheets: SL-032, 033

0 250 500 1,000 M

1:22,500

MAP 3: INDICATIVE HABITAT MAP

Map to be read in conjunction with the conservation plan.

SITE CODE

cSAC 000636
Version 1.01

Date:
September 2006

SL033-026001-
SL033-026003-
SL033-026004-
SL033-026005-
SL033-026002-
SL033-026006-
SL033-029----
SL033-030----
SL033-209----
SL033-042001-
SL033-042002-
SL033-200----
SL033-109----
SL032-226----
SL032-198----
SL032-199----

MONUMENT NUMBER	DESCRIPTION
SL032-198----	Crannog
SL032-199----	Moated site
SL032-226----	Crannog
SL033-026001-	Hall-house
SL033-026002-	Bawn
SL033-026003-	Gatehouse
SL033-026004-	House
SL033-026005-	High cross
SL033-026006-	Architectural fragment
SL033-029----	Crannog
SL033-030----	Crannog
SL033-042001-	Enclosure
SL033-042002-	Cairn
SL033-109----	Crannog
SL033-200----	Crannog

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O.S. sixinch sheets: SL-032, 033

0 250 500 1,000 M

1:22,257

MAP 4: RECORDED MONUMENTS

Map to be read in conjunction with the conservation plan.

SITE CODE

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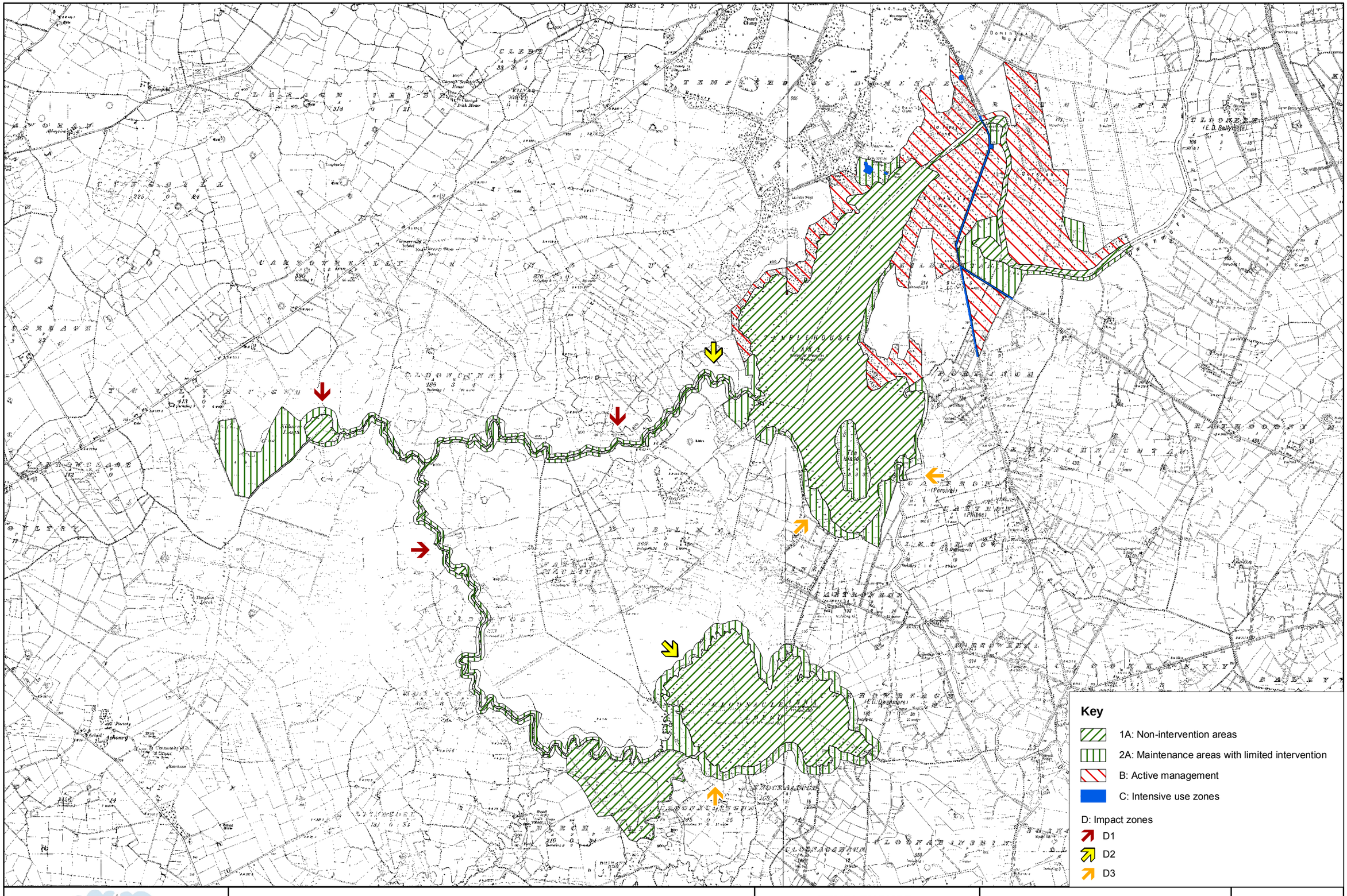
Version 1.01

Date:
September 2006



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O.S. sixinch sheets: SL032, 033

0 250 500 1,000 M

1:22,500

N

MAP 5: MANAGEMENT ZONES

Map to be read in conjunction with conservation plan.

SITE CODE

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Version 1.01

Date:
September 2006