

# Conservation Land Management Strategy



ARUP

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*“The Lough Erne Landscape Partnership (LELP) has been established to help protect and enhance the built, natural and cultural heritage of the Lough Erne landscape. It is one of 90 similar projects throughout the UK and one of several in Northern Ireland.*

*The LELP Partnership is led by RSPB NI and includes Waterways Ireland, National Trust, Upper Lough Erne Region, Ulster Architectural Society, Fermanagh Rural Community Network and Fermanagh Omagh District Council.”*



# 1. Introduction

## 1.1 Background and Terms of Reference

Arup have been commissioned by the Lough Erne Landscape Partnership (LELP) to prepare this Conservation Land Management Strategy (CLMS).

This CLMS has been developed in order to provide a resource for the LELP. The CLMS will be used in the first place to inform the preparation of a Landscape Conservation Action Plan (LCAP)<sup>1</sup>. The LCAP will be a plan submitted as part of the Stage 2 Heritage Lottery Funding (HLF) bid which details a range of projects proposed for the LELP and highlights how these projects address need for protection, enhancement or engagement as identified within this CLMS.

This CLMS therefore provides:

- a baseline of the existing natural environment within the area under consideration for the LELP, with a particular focus on biodiversity;
- an overview of the risks and opportunities which exist for the area's natural environment over the long and short term and where the need exists with regard to protection, enhancement or engagement relating to the natural environment; and
- to inform how the LELP can realistically contribute towards achieving an agreed long term vision through the identification of a functioning mosaic ecosystem on a landscape scale.

This CLMS is not a legal document and LELP as its primary owners do not have any statutory powers. The primary purpose of this document is to inform the preparation of the LCAP and CCLP. Information in this document has been drawn from desktop sources and from local specialist and community sources through various means of consultation such as workshops.

## 1.2 Geographical Context

The area covered by LELP lies within County Fermanagh in the west of Northern Ireland. County Fermanagh, bordering the Republic of Ireland, covers an area of 1851km<sup>2</sup> with over 300km<sup>1</sup> being open water in the form of Upper and Lower Lough Erne (See Figure 1.1). The Loughs, situated in the basin of the River Erne, are often referred to as the Fermanagh Lakelands. Fermanagh has a population of 61,805 and with 33 people per sq km, is sparsely populated.

<sup>1</sup> This CLMS will also inform the development of a Community Connections and Learning Plan (CCLP).

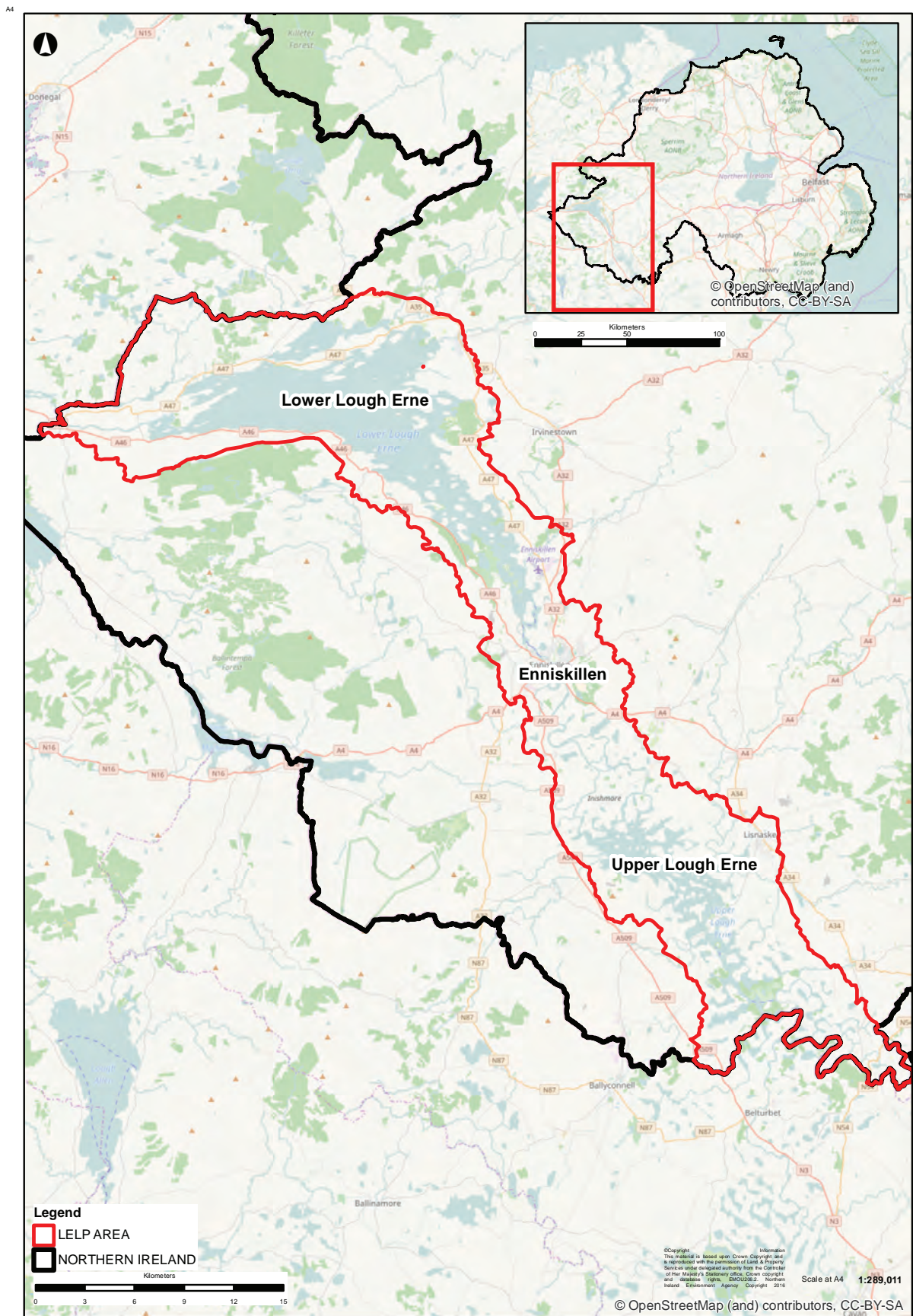


Figure 1.1 | LELP Area

## 2.3 Structure of this Report

This report is set out in a number of sections:

- **Section 1** provides an introduction and background to this report and sets the geographical extent of the LELP area;
- **Section 2** provides some background on the various landscape character assessments which have been carried out in Northern Ireland (NI) and provides specific detail from those character assessments for the area covered by LELP;
- **Section 3** provides background on the legislation and planning policies which are relevant to the LELP area;
- **Section 4** provides an outline of the methodology used in preparing this report;
- **Section 5** provides some background on the natural history recording and research which has been carried out in the LELP area. Although this is not a complete bibliography of every piece of recording and research which has been carried out in the area it does provide an indication of where the main areas of interest have been within the area and provides an indication of where further recording or research may be needed;
- **Section 6** provides an outline of the existing natural environment baseline for the LELP area with a focus on biodiversity and the conditions that support biodiversity;
- **Section 7** provides an outline of land use within the LELP area. This is broken down into recreational use of the area and land management of the area. This section provides detail on identified recreational honey pot sites and key access routes;
- **Section 8** provides an outline of the threats and opportunities that have been identified for the LELP area, at both a high level which might be expected to impact over a wide area or over a long period of time, or at a site, habitat or species specific level which can impact over the short-, medium- or long-term; and
- **Section 9** includes recommended actions which can support the long-term vision of the LELP area. This section provides mapping and supporting text towards fulfilling the requirement in the project brief to refining stakeholder wishes into a ‘mosaic of realistic, achievable and agreed habitats’ that can ‘support biodiversity’ and whilst also facilitating ‘sustainable and appropriate access’ and the ‘space and recreation needs of local people and visitors’.

## 2. Landscape Character of the LELP Area

### 2.1 Landscape Character Assessment in Northern Ireland

In order to provide some context for the geographical and landscape setting of the LELP area, some details are provided in the following sections of landscape assessments which have been carried out for the area by the Northern Ireland Environment Agency (NIEA)<sup>2</sup>. These assessments are important in understanding what is currently considered as important for landscape scale conservation of the LELP area. Whilst this report is focused primarily on nature conservation within the LELP area, the landscape assessments also provide some useful commentary on built and cultural aspects which sits the assessment of any nature conservation baseline and recommendations within its broader context.

The Northern Ireland Landscape Character Assessment 2000 (NILCA 2000) subdivided the NI countryside into 130 Landscape Character Areas (LCAs), each based upon local patterns of geology, landform, land use, cultural and ecological features. The LELP area is based on four NILCA's, a short summary of the key characteristics for each LCA, as identified in the NILCA 2000, is provided in Section 2.2 (see Figure 1.2 for extent of NILCAs).

In 2016, NIEA published the Northern Ireland Regional Landscape Character Assessment (NIRLCA). It identifies 26 regional landscape character areas, and is intended to form a framework for updating of local-scale assessments which will replace the NILCA 2000. The LELP area sits within two NIRLCA areas. Section 2.3 provides details on those assessments (see Figure 1.3 for extent of NIRLCAs).

In addition to the NILCA 2000 and NIRLCA, NIEA Wind Energy Development in Northern Ireland's Landscapes; Supplementary Planning Guidance (2010) (SPG) provides a broad, strategic guidance in relation to the visual and landscape impacts of wind energy development.

<sup>2</sup> The Northern Ireland Environment Agency (NIEA) is an Executive Agency within the Department of Agriculture, Environment and Rural Affairs with the objectives to: deliver effective compliance and implementation of legislation and international obligations; improve understanding and appreciation of our environment; support a sustainable economy; and to deliver reformed and effective planning.'

### 2.2 Northern Ireland Landscape Character Assessment 2000

Within the NILCA 2000, the key characteristics are described for each LCA and an analysis of landscape condition and its sensitivity to change is provided. The LELP area sits within four LCAs. A short summary of the assessment within the NILCA 2000 for each of the four LCAs is provided below.

#### Lower Lough Erne

The Lower Lough Erne LCA is described as the more dramatic of the Loughs, with extensive open water, islands and the Magho Cliffs escarpment to the south. The limestone and quartzite rocks to the Lough's south are described as in contrast to the low bays and promontories of Boa Island and Castle Caldwell in the north. The LCA assessment goes on to further describe a narrow strip of farmland and alder woodland border a boulder strewn shore below the Magho Cliffs with the fringes of the Lough a mix of rushy farmland and small fields and with larger improved fields on the drained ground of the drumlins. The wooded and scrub cleared islands are highlighted as tranquil and undisturbed.

#### Enniskillen

The Enniskillen LCA is described as a landscape which includes the southern end of Lower Lough Erne, the town of Enniskillen and the winding rivers and wetlands in the northern part of Upper Lough Erne. It is described as a landscape of open water, wooded islands and richly vegetated shorelines often invisible from the main roads and with several large wooded estate landscapes.

#### Upper Lough Erne

The Upper Lough Erne LCA is described as a small scale intricate landscape, dominated by water as the channel of the River Erne splits and joins, widens and narrows around drumlin islands. The shores are described as thickly wooded in places and the surrounding drumlins as divided by a patchwork of fields and hedges. Small loughs are fringed with reed beds, carr woodland and the occasional ancient lough dwelling or crannog. Knockninny Hill is described as the only prominent landmark commanding excellent



views over the small settlements and traditional small farms scattered along disorientating narrow twisting roads. The important landscape features which are highlighted in particular are the grand buildings set within wooded parkland estates such as Crom and Belle Isle.

### Croagh & Garvary River

The Croagh & Garvary River LCA is described as being situated on the edge of the Pettigoe plateau having a rough and rugged appearance with farming on the lower slopes and valleys creating a dense pattern of hedged small fields. The plateau itself, with old enclosures and clumps of trees around ruined farmsteads, is described as having an abandoned feel whilst many farms continue to be worked at low intensity, with rough grazing and small hay meadows. Intact blanket bog, raised bogs and moorland are included in the LCA description, and are highlighted as being extensively worked for turf and forestry. A specific feature mentioned as providing interest are earthen bank field boundaries.

## 2.3 Northern Ireland Regional Landscape Character Assessment

The Northern Ireland Regional Landscape Character Assessment provides a strategic overview of the landscape in Northern Ireland and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique.

The LELP area falls within the NIRLCAs of Fermanagh Caveland and Lough Erne Lakeland.

Details from the NIRLCA for the two areas are provided below, listed under the headings used within the report of: Key Characteristics; Natural Influences; Past, present and future forces for change; and Indicators of change. The NIRLCA's assessment of the Ecosystem Services (ES) provided in both areas are listed under the three broad categories of Provisioning, Regulating, Cultural. All the below information is taken from the NIRLCA reports and has been used to inform the recommendations of priorities for nature conservation within the LELP as outlined in Section 9 of this report.

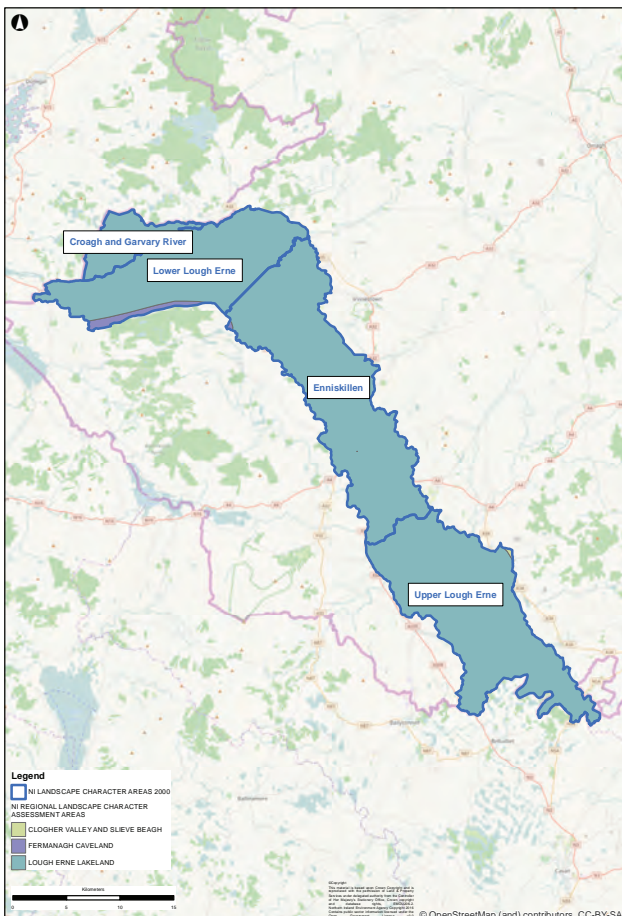


Figure 1.2 | Landscape Character Assessment Areas

## Fermanagh Caveland

Fermanagh Caveland is described in the NIRLCA as “*The often afforested cave-rich limestone uplands on the Fermanagh border, which also extend south and west into Leitrim. The northern and eastern boundaries are defined by limestone and sandstone escarpments along the Erne, including the Cliffs of Magho. Contains Northern Ireland’s only examples of karst landscape.*”

Table 1 | Fermanagh Caveland NIRLCA

Key Characteristics
Distinctive limestone and sandstone uplands separated by broad valleys and loughs
Karst landscape of caves, sinkholes, limestone pavement and dry valleys, reflecting an underlying geology which is recognised by Global Geopark status
Dramatic limestone cliffs and escarpments, with numerous recognisable landmark features
An area popular with visitors, providing recreation opportunities and other tourist facilities
Lowlands are largely pastoral, with intricate patterns of small fields bounded by hedges
Significant areas of peatland, native woodland, commercial coniferous plantation forest, and grass moorland on higher ground
Upland peat bogs and calcareous grasslands protected at a national and international level for priority species and habitats
Prehistoric court tombs and wedge tombs on the higher ground, with later raths, cashels, and crannogs on lower ground
High rainfall associated with the Atlantic exposure of this landscape, influencing perceptions of the area as a soft, watery landscape
A sparsely settled rural landscape, without large settlements and the influences of artificial lighting, and with a strong sense of tranquillity
Natural Influences
The uplands of Cuilcagh Mountain host one of Northern Ireland’s largest blanket bogs, protected as a Special Area of Conservation (SAC) and Ramsar site
The Shannon Pot, the source of the River Shannon, is just over the border on the west flank of Cuilcagh Mountain
This most westerly part of Northern Ireland is exposed to Atlantic weather systems, with high rainfall typical of other parts of the west coast of Ireland
Killykeeghan and Crossmurrin Nature Reserve, Northern Ireland’s largest area of limestone grassland, supports unique plant communities
Small areas of limestone pavement form a key part of the West Fermanagh Scarplands SAC, where limestone soils also support Molinia meadows, Tilio-Acerion forest and important orchid sites

## Perceptual Influences

A scenic landscape of cliffs and rugged hills, with visual diversity in the intricacy of the limestone outcroppings

Lowland areas have strong pattern of small fields interspersed with brighter green blocks of improved land

Sheltered loughs reflect the fringing woodlands and dramatic cliffs during calm conditions

Cliff tops and uplands can feel exposed and windswept

Long westward views of layers of mountains, to Ben Bulbin in the distance to the west

Numerous accessible viewpoints, such as Magho Cliffs offering glimpses of the Atlantic, and Gortalughany, overlooking Lough Erne and County Cavan

Perceived as a soft, watery landscape, influenced by the high level of rainfall, the apparent permeability of the geology, and the eroded landforms

Remote character, more distinct in the forested upland, but remaining in the lowland areas where settlement is sparse

The hills of western Fermanagh have some of the most extensive dark sky areas of Ireland, extending north to Donegal

The blanket bog landscape within this area provided the setting for significant works by the Fermanagh-born watercolourist T. P. Flanagan, such as Boglands, which is said to have inspired his life-long friend Seamus Heaney to write the poem “Bogland”

## Past, present and future forces for change

Extensive afforestation has changed the face of the uplands within this RLCA, with major plantations across the area between Lower Lough Erne and Lower Lough Macnean. These plantations of the later 20th century are now being felled and replaced. The blocky patterns and single-species dominance is being replaced with more biodiversity- and design-led practices to blend better with the landscape

During the Troubles, many of the smaller roads in this area were considered ‘unapproved’ and were blocked or cratered by the Army. Following the 1998 Good Friday Agreement, these roads were reopened and regular access was restored

Recent applications have been made to undertake fracking for gas extraction at Cleggan Quarry near Belleek. The potential value of the shale gas resource beneath the area has been estimated in the billions of pounds. However, fracking is considered by many to be incompatible with the tourism and agriculture of the area, particularly given the porous limestone and perceived fragility of this landscape

A wind farm of 13 turbines was erected at Callagheen in 2006, overlooking Belleek and west Lower Lough Erne. There is a further consented wind farm at Ora More further south which, if built, will be visible from the Lough Macnean area. Further wind farm development in this area would affect the remoteness of the upland as well as the adjacent valleys. It would also lead to increased need for overhead power lines

The zebra mussel (*Dreissena polymorpha*), native to the Black Sea, has colonised loughs in the Erne system, including Lough Macnean, and is considered an invasive alien species. The zebra mussels out-compete native mussel populations and can change the ecology of water bodies through filtering, with effects on biodiversity and fish stocks

**Indicators of change - The following features and aspects in this area could be monitored to assist in understanding future landscape change**

Extent of calcareous grasslands

Extent of single-species coniferous forest cover (including cleared areas which will be replanted)

Extent of deciduous woodland cover, particularly the calcareous Tilio-Acerion forests

Water quality of loughs and rivers

Frequency and severity of flood events

Number and distribution of wind turbines in the area

Number of active mineral extraction sites

Progress of restoration at recently inactive mineral extraction sites

**Fermanagh Caveland NIRLCA is highlighted as providing the Ecosystem Services**

Provisioning: Livestock; Peat; Forestry; and Windfarms

Regulating: Carbon storage; and Flood Control

Cultural: Tourism; and Literature

**Lough Erne Lakeland**

Lough Erne Lakeland is described in the NIRLCA as *“This area includes Upper and Lower Lough Erne, as well as the lowlands and drumlins associated with the Erne valley. It extends north-east into Donegal as well as south into Monaghan/Cavan. The area has a strong north-west to south-east orientation, and is bound by the rising ground of the Fermanagh Caveland to the west, and lower hills to the north and east. The lakelands have a strong identity as a recreational area, though the Upper and Lower loughs exhibit differences in character.”*

Table 2 | Lough Erne Lakeland NIRLCA

**Key Characteristics**

Broad expanse of Lower Lough Erne and the myriad small loughs around Upper Lough Erne

Complex and in places inaccessible and hidden landscape of numerous islands and peninsulas

Hidden and inaccessible landscape may be perceived as having wild qualities

Intricate, often peaceful and tranquil nature of the landscape, away from main roads, is emphasised by the wooded shorelines and frequent thick hedges, rich in biodiversity

Partially drowned landscape of drumlins

Watery town of Enniskillen

Long history of settlement

Plantation estates

One of the principal holiday destinations in Northern Ireland, with tourist developments around the lough, which is popular for water sports

Dark skies across undeveloped land and water



## Natural Influences

Upper Lough Erne, together with the associated wetland areas, islands and smaller side loughs, is protected as a Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site. The lough itself is a naturally eutrophic water body, with distinct assemblages of aquatic plants

Woodland around the loughs is dominated by alder and willow in wet areas and by oak and ash in drier areas, among the largest areas of semi-natural woodland remaining in Northern Ireland. Ancient and long-established woodland has survived on the many islands, whilst the more accessible landscapes have been cleared

The tributary Cladagh (Swanlinbar) River is designated as a SAC for its Freshwater Pearl Mussel habitat

The blanket bogs on the rolling drumlins of the Pettigoe Plateau to the north of Lower Lough Erne are also designated as SAC, SPA and Ramsar. These bogs have significant series of dystrophic pools, and plant communities influenced by proximity to the coast, as well as supporting breeding Golden Plover

A further SAC and Ramsar site covers the Fardrum and Roosky Turloughs, a group of seasonally drying water bodies unique to limestone geology, which are the only turloughs in Northern Ireland

## Perceptual Influences

The dramatic Cliffs of Magho, within RLCA 1, have an essential influence on the setting of Lower Lough Erne, especially in views from the northern shore

Strong influence of this and other high ground on views over the loughs, with forestry and occasionally wind turbines seen on the horizon affecting the perception of the more naturalistic lough sides

Intricate and disorienting landscape of land and water around Upper Lough Erne, making navigation difficult and giving sudden, unexpected views across water

A recreational landscape with holiday accommodation, leisure facilities and piers and jetties around the river and loughs

Hidden water bodies and inaccessible islands, with a high level of woodland compared to other parts of Northern Ireland, give a sense of mystery and discovery to this landscape

The secret islands, inaccessible areas, strong perception of this being a wooded landscape, give a sense of this area being wild, despite the presence of arterial roads, tourist influences, and the fact that it is at least in part created by damming the river

In places, very sheltered and tranquil, with dark skies and an absence of artificial light

A 'soft' landscape, with a perception of natural shores and vegetation, water, reflections, places for peace and contemplation

The name of Enniskillen comes from the Irish Inis Ceithleann meaning island of Cathleen, a figure in Irish mythology who was the wife of Balor of the Fomorians and, by him, the mother of Ethniu

The Portora Royal School in Enniskillen is a local landmark, attended by famous sons including Oscar Wilde and Nobel laureate Samuel Beckett

The latter is commemorated in the annual Happy Days Enniskillen International Beckett Festival

The Fermanagh-born painter T. P. Flanagan, regarded as the major watercolour landscapist working in Ireland in the second half of the 20th century, painted a number of scenes within this area, including at Blaney

### Past, present and future forces for change

A significant past change took place in the 1950s when the hydroelectric dam was built at Cathleen's Falls downriver from Belleek. This had the effect of lowering the water level in Lower Lough Erne, and increasing the land area around the lough shore. The distance between historic waterside monuments and the current lough shore is larger than in the past, changing the way such monuments are interpreted, for example at Devenish Island

A low-lying landscape, the Lough Erne lakelands are overlooked by higher ground on all sides

Open views across lower Lough Erne in particular are defined by the adjacent higher ground such as the Cliffs of Magho. Changes occurring in these adjacent landscapes, such as the construction of wind farms, may affect the perception of the Lough Erne landscapes

Flooding of the Erne system has affected road infrastructure in the recent past. Attempts to control flooding could have an impact on the river system and adjacent landscape. Flooding and flood control measures have the potential to impact on waterside monuments and archaeology

The further growth of tourism may lead to pressure for new development along the shore, potentially including hotels, chalets, marinas, jetties and other infrastructure. As well as physical effects, these developments may bring impacts on noise, water quality and dark skies. The development of large-scale water access may erode the more tranquil nature of the area, and Upper Lough Erne in particular. Some types of watercraft, e.g. jet-skis, also have the potential to impact on perceptions of tranquillity. Increasing visitor numbers may also lead to pressure to upgrade roads around the loughs

Ash is a common species of hedgerow tree in this part of Northern Ireland, and the emergence and spread of Ash dieback (caused by the fungus *Hymenoscyphus fraxineus*) could have major implications for this landscape

The zebra mussel (*Dreissena polymorpha*), native to the Black Sea, has colonised loughs in the Erne system, including Lough Macnean, and is considered an invasive alien species. The zebra mussels out-compete native mussel populations and can change the ecology of water bodies through filtering, with effects on biodiversity and fish stocks

### Indicators of change - The following features and aspects in this area could be monitored to assist in understanding future landscape change

Numbers of new piers and jetties and other waterside development including mooring buoys

Water quality of loughs and rivers

Frequency and severity of flood events

Condition of lough-side historic monuments, such as crannogs

New developments on high ground, including wind farms, which affect the perception of the lakeland landscape

Ecosystem Services of Lough Erne Lakeland Fermanagh

Provisioning: Agriculture and Food processing; Livestock; Freshwater fisheries; Aquaculture; Peat; Quarrying; Forestry; Windfarms; and Drinking water

Regulating: Carbon storage; Waste disposal; Water quality; and Flooding

Cultural: Public access; Tourism; Archaeological heritage; Angling; and Farming

## 2.4 NIEA Wind Energy Development in Northern Ireland’s Landscapes

The NIEA Wind Energy Development in Northern Ireland’s Landscapes; Supplementary Planning Guidance (2010) (SPG) contains an assessment of each of the 130 LCAs by referencing the characteristics and values associated with each LCA. Although this guidance is specifically concerned with wind energy development it is considered a useful source for identifying those landscapes that are vulnerable to change.

Within the SPG each LCA is given an overall sensitivity level using a five-point scale ranging from high to low. All four LCA’s within the LELP area are given a high level of sensitivity to wind energy development.

It is acknowledged within the guidance that there may be considerable variation in sensitivity level within each LCA, reflecting the fact that the LCAs are broad character or identity areas. The overall sensitivity level given is the level that prevails over most of the individual LCA’s geographic area

General issues that need careful consideration specifically relating to some or all of the LELP area are outlined in the SPG and include:

- Impacts on landscape character and skylines around Lower and Upper Lough Erne;
- Impacts on specific landscape and recreational features including the Cliffs of Magho, the Fermanagh waterways, scenic and walking routes, and tourism gateways from the Republic of Ireland;
- Impacts on the wild character of Fermanagh’s upland landscapes;
- Acceptability of wind farm development that may affect the landscape and visual character and values associated with the Marble Arch Caves Global GeoPark; and
- Cumulative impacts associated with transboundary development in Counties Donegal, Leitrim and Cavan, and the skylines and karst landscapes of Sligo.

A brief summary of the assessment within the NIEA Wind Energy Development report for each of the four LCA’s is provided in Table 3.

**Table 3 | NIEA Wind Energy Development LCA Summary Assessments**

LCA	Summary Assessment
Upper Lough Erne	The document describes this as a small scale, complex, intimate landscape with a highly valued landscape and recreational resource which makes an important contribution to tourism in Fermanagh. Overall sensitivity to development is rated as High.
Lower Lough Erne	The document describes this landscape as unspoilt and tranquil over most of its area, and has many highly valued natural, cultural and recreational features with key constraints being the highly exposed character and long views which the area affords. In particular, the distinctive skyline of the Cliffs of Magho along with the shores around the lough are recognised as being especially sensitive to wind energy development. Overall sensitivity to development is rated as High.
Enniskillen	The document describes this Enniskillen landscape as supporting a complex range of small scale features including estates, associated woodlands, hedgerows and many archaeological sites. It also describes Enniskillen as serving as a being a crucial link between Lower and Upper Lough Erne and fulfilling important recreational and amenity functions. Overall sensitivity to development is rated as High.
Croagh and Garvary River	The document describes this LCA as largely open in character and concave in landform and has little or no screening in views from Lower Lough Erne. It is characterised by many small loughs and knolls. In addition to its strong wild character the LCA has important nature conservation assets. Overall sensitivity to development is rated as High.

## 3. Relevant Legislation and Plans

### 3.1 Relevant Legislation

The principal nature conservation legislation in Northern Ireland relates to implementation of the Habitats Directive, Areas of Special Scientific Interest (ASSIs), wildlife protection and nature reserves.

#### **Habitats Directive and EU Directives**

The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) provide for the designation, protection and management of ‘European Sites’, the protection of ‘European Protected Species’ and the adaptation of planning and other controls for the protection of European Sites. European Sites are Special Areas of Conservation listed under the EC Habitats Directive and Special Protected Areas classified under the EC Birds Directive.

Most of the UK’s wildlife and environmental legislation is based on EU legislation. A table of EU environmental directives showing how they are implemented in Northern Ireland, is provided in Appendix B. Other legislation is referenced throughout the CLMS where appropriate.

At the time of writing it is unclear how the United Kingdom’s withdrawal from the EU (BREXIT) will affect our UK and NI legislation which enacts and implements EU law. Currently the Great Repeal Bill is proposed, which will end EU supremacy over UK legislation and repeal the European Communities Act 1972. The Bill will move all EU legislation into UK law unless otherwise amended.

#### **Areas of Special Scientific Interest**

The Environment (Northern Ireland) Order 2002 provides DAERA with the power to declare areas of land as an ASSI where the land is of special interest by reason of its flora, fauna, geological, physiographical or other features and needs to be protected. An owner or occupier may not carry out a notifiable operation specified in the declaration unless consent is granted for them to do so, or unless the operation is carried out as part of a management agreement or management notice. DAERA may serve a management notice on an owner or occupier requiring them to carry out necessary management work specified in the notice. Public bodies are required to further the conservation and enhancement of ASSI land through the appropriate exercise of their functions.

#### **The Wildlife (Northern Ireland) Order 1985**

The Wildlife (Northern Ireland) Order 1985 makes provision related to the protection of wild birds with special penalties available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.

The Order makes provision for offences relating to the protection of wild animals listed on Schedule 5 and makes provision for offences relating to the protection of wild plants listed in Schedule 8.

The Order also contains measures for preventing the establishment of species not native to Northern Ireland which may be detrimental to native wildlife, and prohibits the release of animals and the planting of plants listed on Schedule 9.

#### **The Wildlife and Natural Environment Act (Northern Ireland) 2011**

The Wildlife and Natural Environment Act (Northern Ireland) 2011 amended the Wildlife Order by giving protection to a wider range of plants, animals and birds, and providing additional enforcement powers and increased penalties for wildlife related offences. The Act also introduced a statutory duty on all public bodies to further the conservation of biodiversity.

#### **Nature Reserves**

The Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 provides the Department of Environment, now the Department of Agriculture, Environment and Rural Affairs (DAERA), with the power to acquire land for the purpose of managing it as a nature reserve. DAERA may also enter into a management agreement with the owners and occupiers of land for this purpose. Byelaws can be made to protect both nature reserves and marine nature reserves.



## 3.2 Planning

### 3.2.1 Why is the Planning System Important?

The planning system shapes new development all over the country, and attempts to make sure it reflects the needs of society, the economy and the environment.

The system exists to assess whether development is in the public interest, weighing up its economic, environmental and social benefits and drawbacks. It should make sure that new development in areas of importance for the natural and built environment takes into account its surroundings and it can prevent development where it would cause unacceptable environmental damage.

Implementation of planning law in Northern Ireland has recently undergone some changes and this may have potential for impacts on development within the LELP area.

### 3.2.2 Changes to Planning in Northern Ireland

The planning system has recently been reformed and restructured from a unitary system where all planning powers rested with the Department<sup>3</sup>, to a new two-tier model of delivery whereby councils have primary responsibility for the implementation of the following key planning functions:

- local plan-making;
- development management (excluding regionally significant applications); and
- planning enforcement.

The Department retains responsibility for regional planning policy, the determination of regionally significant and called-in applications, and planning legislation. It also provides oversight, guidance for councils, governance and performance management functions.

### 3.2.3 Regional Development Strategy 2035

Regional Policy Context is provided by the Regional Development Strategy. The RDS 2035 aims to protect and enhance the environment for current and future generations. It recognises that Northern Ireland's environment is one of its greatest assets which has benefits in terms of the economy and quality of life. Regional Guidance seeks to conserve, protect, and where possible, enhance our built heritage and our natural environment (RG11).

The RDS 2035 recognises that the natural environment directly supports all life and is an asset to society. In promoting sustainable development and well-being RDS 2035 states that it is important to:

- Sustain and enhance biodiversity;
- Identify, establish, protect and manage ecological networks;
- Protect and encourage green and blue infrastructure within urban areas;
- Protect and manage important geological and geomorphological features;
- Protect, enhance and manage the coast;
- Protect, enhance and restore the quality of inland water bodies;
- Recognise and promote the conservation of local identity and distinctive landscape character;
- Conserve, protect and where possible enhance areas recognised for their landscape quality;
- Protect designated areas of countryside from inappropriate development (either directly or indirectly) and continue to assess areas of designation; and
- Consider the establishment of one or more National Parks.

### 3.2.4 Planning Policy Statements

The Department's 'Strategic Planning Policy Statement for Northern Ireland' - Planning for Sustainable Development (SPPS) sets out the Department's regional planning policies for securing the orderly and consistent development of land in Northern Ireland under the reformed two-tier planning system. The provisions of the SPPS must be taken into account in the preparation of Local Development Plans, and are also material to all decisions on individual planning applications and appeals.

Planning Policy Statements (PPSs) set out the policies of the Department on particular aspects of land-use planning and apply to the whole of Northern Ireland. Their contents must be taken into account in preparing development plans and are also material to individual planning applications and appeals.

Planning Policy Statement 2 (PPS 2) Planning and Nature, sets out the current regional policy for the protection of nature conservation interests. PPS 21 Sustainable Development in the Countryside and the Planning Strategy for Rural Northern Ireland contains

<sup>3</sup> From 8 May 2016 central government planning functions transferred to the new Department for Infrastructure (DfI)

regional policies in relation to the environment including protection of rural landscapes. The policy objectives for natural heritage are to:

- seek to further the conservation, enhancement and restoration of the abundance, quality, diversity and distinctiveness of the region's natural heritage;
- further sustainable development by ensuring that biological and geological diversity are conserved and enhanced as an integral part of social, economic and environmental development;
- assist in meeting international (including European), national and local responsibilities and obligations in the protection and enhancement of the natural heritage;
- contribute to rural renewal and urban regeneration by ensuring developments take account of the role and value of biodiversity in supporting economic diversification and contributing to a high quality environment;
- protect and enhance biodiversity, geo-diversity and the environment; and
- take actions to reduce our carbon footprint and facilitate adaptation to climate change.

### 3.2.5 Local Plans

Fermanagh and Omagh District Council are in the process of developing the Fermanagh and Omagh Community Plan and the Fermanagh and Omagh Local Development Plan. Legislation has placed a statutory link between both these important plans. This means that, in preparing the local development plan, councils are legally required to take account of the content of their own community plan, in addition to the Regional Development Strategy 2035 policy and the Strategic Planning Policy Statement.

#### Fermanagh and Omagh Community Plan

The Fermanagh and Omagh Community Plan (FOCP) is a long term strategy aimed at improving quality of life and wellbeing, as well as improving public services, in the Fermanagh and Omagh area.

It will be delivered through a new and innovative partnership involving the public, private and community/voluntary sectors, all working together to achieve a shared Vision of 'a vibrant, living place where people enjoy improved prosperity and wellbeing in a safe, shared, connected and sustainable environment'.

The FOCP sets out the following nine outcomes as its aspirations for the future of the people of the Fermanagh and Omagh area:

- Our people have improved physical health and mental wellbeing;
- Older people lead more independent, engaged and socially connected lives;
- Our communities are inclusive and safe, and people feel safer;
- Our communities are more vibrant, resilient and empowered;
- Our people have the best start in life with lifelong opportunities to fulfil their potential;
- Our economy is thriving, expanding and outward looking;
- Our district is a connected place;
- Our outstanding natural environment and cultural and built heritage is enhanced and sustainably managed; and
- Our district is an attractive and more accessible place.

Underpinning the Vision are three themes and nine shared outcomes. The Environment Theme has the following two outcomes:

- Our outstanding natural environment and cultural and built heritage is enhanced and sustainably managed; and
- Our district is an attractive and accessible place.

The agreed long-term aim for the Environment theme is to promote positive action on climate change, sustainable management and enhancement of the built, cultural and natural environment. Table 4 lists the strategic actions and indicators proposed for the FOCP.

Table 4 | Fermanagh and Omagh Community Plan Strategic Actions and Indicators

Outcomes	Proposed Strategic Actions	Indicators
Our outstanding natural environment and cultural and built heritage is enhanced and managed more sustainably	Develop and implement management plans for the Sperrins AONB and for the Global Geopark in partnership with neighbouring areas;	The percentage of local authority collected municipal waste preparing for reuse, dry recycling and composting;
	Promote and build increased local appreciation of, and access to, our natural, built and cultural heritage assets;	The percentage of designated land in favourable condition;
	Engage people in protecting and enhancing their local environment and in becoming community environmental champions;	The usage of quality listed walkways and cycle paths in the district;
	Reduce dependency on traditional fossil fuels and develop and support local initiatives which incorporate renewable energy;	The percentage of waters complying with EC Fresh Water Directive; and
	Develop initiatives to drive innovation in energy efficiency;	The number of buildings on the Buildings at Risk (NI) register.
	Create an industry forum to promote and develop skills in sustainable and energy efficient construction methods to support BREEAM certified development;	
	Explore opportunities to build awareness of and develop programmes to improve energy efficiency of homes across the region;	
	Develop programmes to promote waste minimisation both in domestic and in industrial/commercial sectors;	
	Develop and enhance the waste infrastructure across the district;	
	Ensure that the highest environmental standards are achieved across all waste management projects and programmes;	
Promote the development of sustainable infrastructure to assist in flood risk management; and		
Identify, prioritise and action appropriate means of mitigating against and responding effectively to flooding events.		

Outcomes	Proposed Strategic Actions	Indicators
Our district is a more attractive and accessible place	Ensure that new development is of high quality design, positively reflecting the distinctive identity of our towns, villages and the rural area, whilst meeting the housing and employment needs of the area;	The proportion of commercial premises that are vacant;
	Enhance and improve the quality of public realm (i.e., external public places) to make our towns, villages and neighbourhoods more welcoming, accessible, clean and attractive to business, local users and visitors;	Litter levels across the district / incidents of fly-tipping;
	Develop initiatives to encourage and promote civic pride in our area 9d. Progress the sustainable redevelopment and use of key ‘opportunity sites’ in our main towns and across the district; and	The number of tourism trips to the district;
	Increase countryside access across the district, promoting the ‘leave no trace principle’.	The provision of car parking spaces, including disabled spaces, in accessible locations; and
		The length of publicly accessible walkways across the countryside.

### Fermanagh and Omagh Local Development Plan

As required under the new planning system in NI, the Fermanagh and Omagh Local Development Plan<sup>4</sup> (FOLDP) is currently in preparation and is at Stage 1: Initial Plan Preparation. The FOLDP will guide the future use of land in the Council area and inform developers, members of the general public, communities, government, public bodies, representative organisations and other interests of the policy framework that is used to determine development proposals.

All NI LDPs should seek to protect and integrate certain features of the natural heritage when zoning sites for development through the use of ‘key site requirements’ (KSRs) and identify and promote green and blue infrastructure. Natural heritage features and designated sites should be identified as part of the plan-making process and where appropriate, policies brought forward for their protection and/or enhancement. A hierarchy of designations is available under European and local legislation and designation is primarily the responsibility of NIEA. Some designations, typically at a local scale, are brought forward under the LDP process.

Following the introduction of PPS 21 and as part of the FOLDP preparation Special Countryside Areas (SCAs) within the plan area will be zoned. SCAs are regarded as exceptional landscapes such as mountains or lough shores and certain views or vistas. The quality of the landscape and unique amenity value is such that development should only be permitted in exceptional circumstances. As part of the Countryside Assessment for the FOLDP, it may be necessary to identify additional areas and designate them as SCAs with local policies brought forward to protect their unique qualities.

#### 3.2.6 Other Relevant Biodiversity Plans

The EU Biodiversity Strategy seeks to halt the loss of biodiversity and ecosystems services by 2020 and this is reflected in both Priority 3 of the Programme for Government (PfG) and the RDS. Furthermore, the Wildlife and Natural Environment Act (Northern Ireland) 2011 places a statutory duty on every public body to further the conservation of biodiversity.

The Northern Ireland Biodiversity Strategy 2020 sets the framework for biodiversity action. The Biodiversity Strategy describes the main features of biodiversity in Northern Ireland, identifies the main factors affecting it and proposes a number of measures to support biodiversity conservation up to 2020.

The Fermanagh and Omagh Local Biodiversity Action Plan 2016-2020 (FOLBAP) outlines a plan of action to: help conserve and enhance local habitats and species; and raise awareness and knowledge of local biodiversity; and involve local people and develop partnerships in the delivery of the Fermanagh and Omagh Local Biodiversity Action Plan. The plan identifies the following Broad Habitats for action:

- Wetlands;
- Calcareous habitats;
- Bogs and heath;
- Grasslands;
- Woodland and hedgerows; and
- Urban.

The plan also identifies the following local species and species groups for action:

- Bats;
- Breeding waders;
- Bumblebees;
- Devil’s bit scabious and marsh fritillary;
- Dragonflies and damselflies;
- European eel;
- Frogs and newts;
- Orchids;
- Red squirrel;
- Swift;
- Wild thyme; and
- White-clawed crayfish.

<sup>4</sup> See <http://www.fermanaghomagh.com/residential-services/planning-and-building/planning/local-development-plan/> for more details of the FOLDP



## 4. Methodology

### 4.1 Desktop Research

A variety of publications, both online and in print have been accessed and reviewed in order to inform this CLMS. A full bibliography is provided in section 10 with data sources and publications identified as being relevant to the LELP area. References are provided throughout.

A number of organisations have been contacted to source information relating to the natural environment and recreational activities in the LELP area (see Table 5).

Table 5 | Organisations Contacted

Organisation	
Agri-Food & Biosciences Institute (AFBI)	Inland Fisheries Department of Agriculture, Environment and Rural Affairs
Botanical Society of Britain and Ireland	Lichen Ireland
British Bryological Society	Lough Erne Wildfowlers Council
Buglife	National Trust
Butterfly Conservation Northern Ireland	NI Forest Service, Department of Agriculture, Environment and Rural Affairs
Centre for Ecology & Hydrology Lancaster Environment Centre Lancaster University	Northern Ireland Bat Group
Centre for Environmental Data and Recording	Northern Ireland Environment Agency Department of Agriculture, Environment and Rural Affairs
Environmental Change Research Centre Department of Geography University College London	Northern Ireland Environment Agency Water Management Unit Department of Agriculture, Environment and Rural Affairs
Erne Rivers Trust	Rivers Agency Department for Infrastructure
Fermanagh and Omagh District Council Fermanagh Red Squirrel Group	Royal Society for the Protection of Birds

In particular, the following data sources provided comprehensive information on the area in general and specific topics as applicable.

**The Flora of County Fermanagh** (Forbes and Northridge 2012) provides comprehensive detail on plant species recorded in County Fermanagh and provides detailed accounts for many species recorded in the LELP area.

**The County Fermanagh Scarce, Rare & Extinct Vascular Plant Register and Checklist of Species** (Northridge et al., 2014) is a register produced as part of a national Botanical Society of Britain and Ireland (BSBI) initiative to highlight plants whose scarcity is a cause for concern. It provides a strong basis against which biodiversity changes may be monitored in the future. Additionally, it draws attention to these species and their importance but also, perhaps more crucially, to the importance of botanical biodiversity generally and should encourage more people to take up the challenge of field botanical recording.

Two of the most prominent organisations which actively contribute towards recording and conservation of plant species are the BSBI and Plantlife.

#### **Botanical Society of Britain and Ireland (BSBI)**

The BSBI is the biggest and most active organisation devoted to the study of botany in Britain, Ireland, the Channel Isles and the Isle of Man. They have training, outreach and research programmes to support botanists at all skill levels. The Vice County recorder for Fermanagh is currently Robert Northridge who holds numerous records for all species within the LELP area.

#### **Plantlife**

Plantlife, (an organisation that is dedicated to raising the profile, to celebrate their beauty, and to protect the future of wild flowers, plants and fungi) has identified Upper Lough Erne as an Important Plant Areas (or IPA). In 2007, Plantlife announced the establishment of 150 IPAs across the UK, areas nominated for their internationally important wild plant populations. Plantlife actively raise awareness of these ecologically important habitats and encourage their long-term protection and improvement through the adoption of an 'ecosystem-based' conservation approach.

#### **British Bryological Society (BBS)**

The British Bryological Society (BBS) exists to promote a wider interest in all aspects of bryology – the study of mosses and liverworts. It provides tuition, organizes meetings, facilitates research and aids measures for conservation. The BBS vice-county recorder for Fermanagh is Paul Hackney.

#### **Fermanagh Red Squirrel Group (FRSG)**

The Fermanagh Red Squirrel Group (FRSG) was formed in the spring of 2011, facilitated by Fermanagh District Council through its Local Biodiversity Action Plan. A number of general issues relating to red squirrel have been highlighted through correspondence with Fermanagh Red Squirrel Group (FRSG).

#### **Northern Ireland Bat Group (NIBG)**

The Northern Ireland Bat Group (NIBG) have provided records for bat species throughout the LELP area. This includes roost counts and activity counts. However, this data is sensitive and exact locations for roosts have not been provided in this report. Only discussion around the general distribution of records is discussed.

#### **Lough Erne Wildfowlers Council (LEWC)**

The Lough Erne Wildfowlers Council (LEWC) have highlighted their ongoing work to restore suitable habitat for breeding waders on Boa Island.

#### **Butterfly Conservation Northern Ireland (BCNI)**

Butterfly Conservation Northern Ireland (BCNI) is the most prominent organisation which raises awareness of the drastic decline in butterflies and moths within the UK and has contributed towards widespread acceptance that action needs to be taken. BCNI undertakes practical conservation thereby contributing towards a reversal in decline of some of the most threatened species.

## 4.2 Mapping

### 4.2.1 Datasets

Engagement has been undertaken with a number of organisations and individuals who may hold datasets or have a particular knowledge of the natural environment and recreation in the LELP area. This includes organisations listed in Table 5 above.

All datasets received have been mapped in ArcGIS and a series of maps have been presented to attendees at the various workshops. GIS provides an opportunity to overlay relevant baseline layers to identify where opportunities or risks might be and provides the opportunity to prepare potential habitat mosaics for the LELP area.

CEDaR, the Centre for Environmental Data and Recording, is the Local Records Centre for Northern Ireland, and facilitates the collection, collation, management and dissemination of biodiversity and geodiversity information for Northern Ireland and its coastal waters. A data request was made to CEDaR for all records held from within the LELP area however this returned a total of close to 400,000 records so it was decided to filter these results to include only protected species recorded in the past 15 years. This resulted in a more manageable database of approximately 6,000 records. It should therefore be borne in mind that any discussion in this document relating to CEDaR records will relate to records held for protected species recorded in the past 15 years.

Further, the National Biodiversity Data Centre online biodiversity mapping system<sup>5</sup> and the NBN Gateway<sup>6</sup> were also consulted for records of individual species.

These datasets and websites will be available for LELP to interrogate, subject to appropriate licensing arrangements. However, it should be noted that a Living Atlas of NI is currently in development by CEDaR. Living Atlas of NI is proposed to be a live online records system with significant functionality and allowing the ability to interrogate particular areas such as LELP for all records. It is considered that the Living Atlas of NI, when published, will supersede the information provided in this report.

### 4.2.2 Habitat Data

The availability of a habitat map for the entire area was considered important in the development of mapping tools to assist in defining a vision of an ecosystem/habitat mosaic for the LELP area.

Although there are detailed habitat maps available for specific locations throughout the LELP area, such as for National Trust properties and those associated with planning applications, habitat mapping based on ground survey which covered the entire LELP area was unavailable.

Habitat mapping for the LELP area was however obtained through the Land Cover Map 2007 (LCM2007) dataset, sourced from the Centre for Ecology and Hydrology, based at Lancaster University. This data is a parcel-based classification of UK land cover and uses 23 classes to map the UK, which are based on the UK Biodiversity Action Plan (BAP) Broad Habitats (BH). LCM2007 is created by classifying summer-winter composite images captured by satellite sensors. The mapping uses a spatial framework based on generalised digital cartography from the Land & Property Services Large-scale Vector for, refined with image segments (see Morton et al., 2011 for details). LCM2007 is consequently constructed from polygons that clearly represent real-world objects, such as fields and blocks of woodland.

LCM2007 sets a minimum mapable area of >0.5 ha and parcels less than 0.5ha and linear features less than 20m are dissolved into the surrounding landscape during the production process. Ground reference data were collected to enable the validation of LCM2007 against a set of data designed to match the spatial and thematic resolution of LCM2007. This allowed LCM2007 to be compared against 9127 ground reference polygons throughout the UK, producing an average accuracy of 83%.

On inspection of this habitat data specifically relating to the LELP area, it has been identified that there are discrepancies between the habitats identified by LCM2007 polygons and those which are considered likely to be present based on aerial imagery. Therefore, it is considered that this data should be used at a landscape scale to identify general trends in habitat distribution or by LELP for any landscape scale conservation such as the identification of wildlife corridors (For example, see Figures 9.1 to 9.9). The identification of actions for habitats and species on a landscape scale will contribute towards the achievement of a habitat mosaic for the LELP area over the long-term.

5 <http://maps.biodiversityireland.ie/>

6 <https://data.nbn.org.uk/>

### 4.3 Workshops

Three workshops have been held to inform the preparation of the CLMS, on the 11th October, 15th November and 13th December at the Waterways Ireland offices in Enniskillen. These workshops were held in order:

- to identify important species and habitats within the area;
- to identify what specific locations were important for those habitats or species;
- to identify what the major issues facing the conservation of the natural environment within the LELP area are; and
- to identify what opportunities there might be for nature conservation and recreation at a high level and over the next 30 years.

Information gathered during the workshops has supplemented desktop research and data gathering and provided an indication of where priorities lie for those with an involvement in nature conservation and those with an involvement in recreational activities in the LELP area.

The first workshop was attended by the LELP Natural Heritage Working Group (NHWG)<sup>7</sup> and additional invited stakeholders representing organisations with an interest in or responsibility for nature conservation, particularly in the LELP area. The workshop focused on the identification of the major issues facing the natural environment within the LELP area and what opportunities might exist for conservation/enhancement.

The second workshop was focused on recreational activities with most of the attendees having an interest or some involvement in recreational activities in the Lough Erne basin. Attendees provided feedback on what they considered to be the main issues and opportunities facing sustainable recreational use in the LELP area and picked their highlights of what could be included in a vision for the LELP area for the next 30 years.

The third workshop focused on nature conservation within the LELP area<sup>8</sup>. Attendees annotated A0 size baseline maps with notes on issues and opportunities for nature conservation and recreational opportunities at specific locations. Attendees also provided input on potential opportunities to address high level issues such as water quality, habitat connectivity etc.



Workshops

<sup>7</sup> The LELP NHWG consists of representatives from Waterways Ireland, Ulster Wildlife, Woodland Trust, Fermanagh and Omagh District Council, National Trust, Northern Ireland Environment Agency, Forest Service, and Royal Society for Protection of Birds.

<sup>8</sup> Most attendees were from the NHWG with some additional attendees from RSPB and NIEA.

## 5. Lough Erne Natural History and Research

### 5.1 Importance of Context

In order to inform decisions relating to conservation of the natural environment within the LELP area a clear understanding must be gained as to what exists in the area currently and what has existed previously. This understanding can help in identifying where the need for conservation action exists and what a potential long-term vision for the LELP might be. Examples of this need could be whether there are any particular species which have shown a trend towards a declining population which could potentially be reversed, or whether there are particular sites which historically were important for a particular habitat or species, are currently in an unfavourable state and which could potentially be restored. In order to gain this understanding, published sources of information and expert local knowledge has been researched and sought.

Two aspects of recording of the natural environment include informal recording by natural historians and formal recording by researchers associated with particular scientific studies. Although the distinction between natural historians and researchers is often blurred each aspect is separately discussed in brief below. A bibliography of relevant published sources is provided in Section 10.

### 5.2 Lough Erne Natural History

In order to gain an understanding of how the natural environment has been recorded in the LELP area and what particular landscapes, sites, habitats, taxa groups or species have been well represented or under-represented in data recording for the area it was considered important to identify the most prominent recorders for the area and provide a bibliography of relevant published material. This recorders list and publications can be interrogated to provide more detail on what records each individual has made, to understand how recording of the natural environment has progressed historically and thereby inform recommendations as outlined in Section 9 of this report.

A non-exhaustive list of natural historians and recorders which have contributed to the recording in the Lough Erne area is provided in Appendix C. This list has been derived from published sources such as *The Flora of County Fermanagh* (Forbes and Northridge, 2012), *The Butterflies and Moths of Northern Ireland* (Thompson and Nelson, 2006) and *The Natural History of Ireland's Dragonflies* (Nelson and Thompson, 2004).

There is a strong tradition of natural historians in the Lough Erne area ranging from Robert Lloyd Praeger, who in his celebration of the Irish landscape, *The Way That I Went* (1937) described Fermanagh as “a varied and attractive county”, to Ralph Forbes and Robert Northridge, authors of *The Flora of County Fermanagh* (2012).

Robert Lloyd Praeger in particular is recognised as an iconic presence within natural history recording in Ireland and so it is considered worth highlighting some of his comments on the LELP area as described in *The Way That I Went*. He describes the Lough Erne landscape as it existed in the early part of the 20th Century, particularly in a favourable light when compared to neighbouring Tyrone. He states that there are “*wonderful water trips from Enniskillen right up to Lough Oughter but the bolder scenery and more open views which obtain on the Lower Lake make it the more attractive*”. He also describes the islands of Lower Lough Erne as “*interesting*” with some “*cleared of timber and grazed, but many occupied by dense native wood which has never been interfered with*” and that these “*harbour a purely indigenous flora and fauna, and are consequently of great attraction to the naturalist; as they tell us what the country-side was like before man began to cut or burn down trees or to graze herds of cows and sheep, or to break up the land for tillage*”. He goes on to describe the rich woodland understory flora and the stony shores with a different vegetation, limy, exposed and liable to floods. He also describes that the “*most delightful time on Lough Erne is May or early June, for then the trees are at their freshest, the wild-flowers are in full blow, and the bird population of the lake is at its busiest.*”



Knowing the conditions within the LELP area prior to agricultural intensification along with a knowledge of notable local natural history recorders and their publications can assist in developing actions for specific sites, habitats and species. It is also useful to have an indication of how many, who and what individuals and organisations have submitted records in recent times to the CEDaR. A snapshot of the level of recording for the area shows that there have been over 6000 records of protected species from within the LELP submitted to CEDaR area within the past 15 years. These records have been submitted by various recorders, although a high percentage of this total has been submitted by relatively few individuals.

The willingness of so many recorders to submit their records to CEDaR does however show a certain level of enthusiasm for natural history recording by both specialists and non-specialists in the LELP area and this could be harnessed in any future relevant actions for biodiversity in the area.

It should be noted however that there are likely many records which CEDaR don't hold for a whole variety of reasons. Issues identified relating to submission of data to CEDaR include problems in how some data is inputted and relating to the validity and storage of data. CEDaR are however planning a new online Living Atlas of NI which aims to improve data submission and retrieval.



Robert Lloyd Praeger

## 5.3 Research

### 5.3.1 Introduction

A wide variety of scientific research related to the natural environment has been undertaken and is currently being carried out within the Lough Erne basin. One ongoing landscape scale study is considered in detail whilst selected other relevant publications are briefly mentioned.

### 5.3.2 Lake BESS Project - Lake Biodiversity, Ecosystem Services and Sustainability

The Lake Biodiversity, Ecosystem Services and Sustainability project (Lake BESS) is an ongoing project focussing on the role of biodiversity in the provision of ecosystem services from lowland shallow lakes. The project is run by Dr Carl Sayer and Ambrose Baker from University College London with partners at the Natural History Museum (London), the University of Stirling and Aarhus University (Denmark) and is part of the Biodiversity, Ecosystem Services and Sustainability (BESS).

The Lake BESS programme is a six-year (2011-2017) research programme, funded by the UK Natural Environment Research Council (NERC) and the Biotechnology and Biological Sciences Research Council (BBSRC) as part of the UK's Living with Environmental Change (LWEC) programme.

The project is focused on the importance of connectivity between lakes which is believed may be a crucial factor in regulating the within lake ecological balance. In addition, the project is focusing on the consequences of biodiversity loss for the life of people working with lakes or enjoying outdoor activities around lakes.

Upper Lough Erne was chosen in a twin study with the Norfolk Broads for the Lake BESS research project because of the large density of lakes at both and the contrasting freshwater biodiversity i.e. extremely well preserved at Upper Lough Erne and degraded at the Norfolk Broads. The project aimed to determine whether the high biodiversity found in the satellite Upper Lough Erne lakes was linked to the local conditions at each lake and whether the abundance of lakes nearby was another factor to consider.

Although findings have not yet been published, the researchers have said results demonstrate that connectivity between the lakes is an important factor that, to date, has facilitated the maintenance of biodiversity rich communities (which have been lost from most other shallow lakes across the UK) (Baker, pers. comm., 2016) and they consider that connectivity

may act in different ways such as enhance exchange of propagule between lakes.

The project scientists are extremely concerned that nutrient levels in the water are too high for high biodiversity levels to be sustainable in the long term. In particular, they believe that without a reduction of nutrients in the water in the area, many of the satellite lakes may change from their current state dominated by aquatic plants (macrophytes) to another state dominated by phytoplankton (Baker, pers. comm., 2016). This change would have important implication for the lake functioning and would be followed by loss of biodiversity and ecosystem services.

The project scientists also identified the UK leaving the EU as of great importance, although a source of uncertainty, for biodiversity in the area for two reasons (Baker, pers. comm., 2016). Firstly, the protection and mechanism for protection of the ecosystems will change and it appears unlikely that it will result in a higher level of protection. Secondly, the upstream catchment of the system is located in another state. For this reason, Dr Baker advised that there will be a need to re-invent and coordinate effort on catchment-level measures to protect conservation.

Papers arising from the project are currently in preparation and earmarked for publication in the scientific journal *Ecography* and for an article in *British Wildlife*.

### 5.3.3 Selected Publications

A comprehensive review of all published material relating to the LELP area is outside the scope of the CLMS, however below are outlined some selected publications for the area.

**Gallagher, Kevin, et al. "Hemimysis anomala GO Sars, 1907 expands its invasive range to Northern Ireland." *BioInvasions Records* 4.1 (2015): 43-46.**

The paper identifies that the presence of this species at the two extreme ends of Upper Lough Erne and indicates that *H. anomala* is now established throughout this lake. The introduction of this species to the River Erne catchment is worrying as this species is known to be a voracious predator capable of consuming zooplankton prey at three times the rate of its closest native ecological equivalent *Mysis salemaai*. Lough Erne has also experienced an ecological shift (Rosell

2012) since the introduction of *Dreissena polymorpha* in the period between 1996 and 1998 and the co-occurrence of these two high impact invaders (Maguire and Grey 2006; Gallardo and Aldridge 2013) is likely to compound the current changes in ecological state that this water body is already experiencing. The paper concludes that attention must now be concentrated on monitoring this species and inhibiting its expansion into other catchments.

**Kelly, Ruth, et al. Effects of *Elodea nuttallii* on temperate freshwater plants, microalgae and invertebrates: small differences between invaded and uninvaded areas. *Biological Invasions* 17.7 (2015): 2123-2138.**

All observed differences in the macrophytes community were small relative to other factors such as nutrient levels, inter-annual variation and differences between sites. Despite this, the observed negative association between Nuttall's waterweed (*E. nuttallii*) and charophytes is a key concern due to the rarity and endangered status of many charophyte species.

A non-exhaustive list of published research relating specifically to the LELP area is provided in Section 10 of this report.

There are many articles relevant to the LELP area published in the *Irish Naturalists' Journal* and *Irish Naturalist* available at <http://irishnaturalistsjournal.org/> and in range of other scientific journals and other publications.

## 6. Existing Natural Environment

### 6.1 Introduction

This section builds on the information provided in Section 1 of this report (which relates to landscape assessments for the LELP area) by providing detail:

- on the abiotic conditions which exist to support biodiversity, the Geology and Soils, and Water sections;
- on the designated and undesignated sites of importance; and
- on the habitats and species which have been recorded or mapped within the LELP area.

The LELP area is home to a number of designated sites, reserves, NI priority habitats and NI priority species. In addition, there are many habitats and locations which although are not protected are known to be important for either one particular species, taxa group or assemblage of species.

All of the data used to map sites, habitats and species has been stored in ArcGIS shapefiles with associated attribute data and will be retained by the LELP team for further interrogation throughout the lifetime of the Landscape Partnership.

### 6.2 Geology and Soils

Geology has strong ties with biodiversity, in that the nature of the substrate, as usually determined by the nature of the underlying rock, is a key factor in determining the distribution of habitats and species. An obvious example of this is the turloughs, seasonally flooded grasslands, at Fardrum and Roosky (a Special Area of Conservation).

A brief description of the geology and soils of the LELP area are presented below under the two NIRLCA areas which cover the entire LELP area, Lough Erne Lakeland and Fermanagh Caveland. The Bedrock Geology for the area is shown in Figure 6.1 and Soils (Superficial Deposits) in Figure 6.2.

#### Lough Erne Lakeland

Bedrock beneath the Lough Erne valley comprises a complex series of faulted sedimentary rocks of Carboniferous age. These include sandstones, mudstones and limestone, the last of which is occasionally expressed in surface karst features.

The drumlin landscape east of Irvinestown overlies older sedimentary rocks of the Devonian period, and the River Erne broadly follows the north-south fault line which divides these rocks from the Carboniferous strata.

The whole area is cut through by igneous dykes running north-west to south-east, which clearly influence the grain and orientation of the landscape around Derrygonnelly.

The geological exception is to the north of Lower Lough Erne, where the Lough Derg Inlier is found. These ancient metamorphic rocks are beneath the Pettigoe Plateau and are pre-Dalradian in age, ranking as Northern Ireland's oldest rocks.

Drumlins formed of glacial till were laid down during the ice age, forming the intricately rolling landscape which was subsequently flooded, leaving alluvial deposits between the drumlin 'islands'.

#### Fermanagh Caveland

The limestone of which these hills are composed was formed 360 million years ago in the Carboniferous period, when the area formed the bed of a shallow equatorial sea. Significant areas of surface sandstone around Lough Navar and Cuilcagh give an acid character to these areas.

Subsequent erosion has created a landscape of potholes, sinkholes limestone pavement and caverns known as karst, including Ireland's deepest pothole, at Reyfad, which is over 180m deep.

A range of dramatic limestone landforms, including the 200m-high Cliffs of Magho, the rocky outcrops of Big Dog and Little Dog.

There is a spectacular show-cave at Marble Arch which forms the heart of a Global Geopark, first recognised in 2001 and now comprising numerous sites in Fermanagh and Cavan.



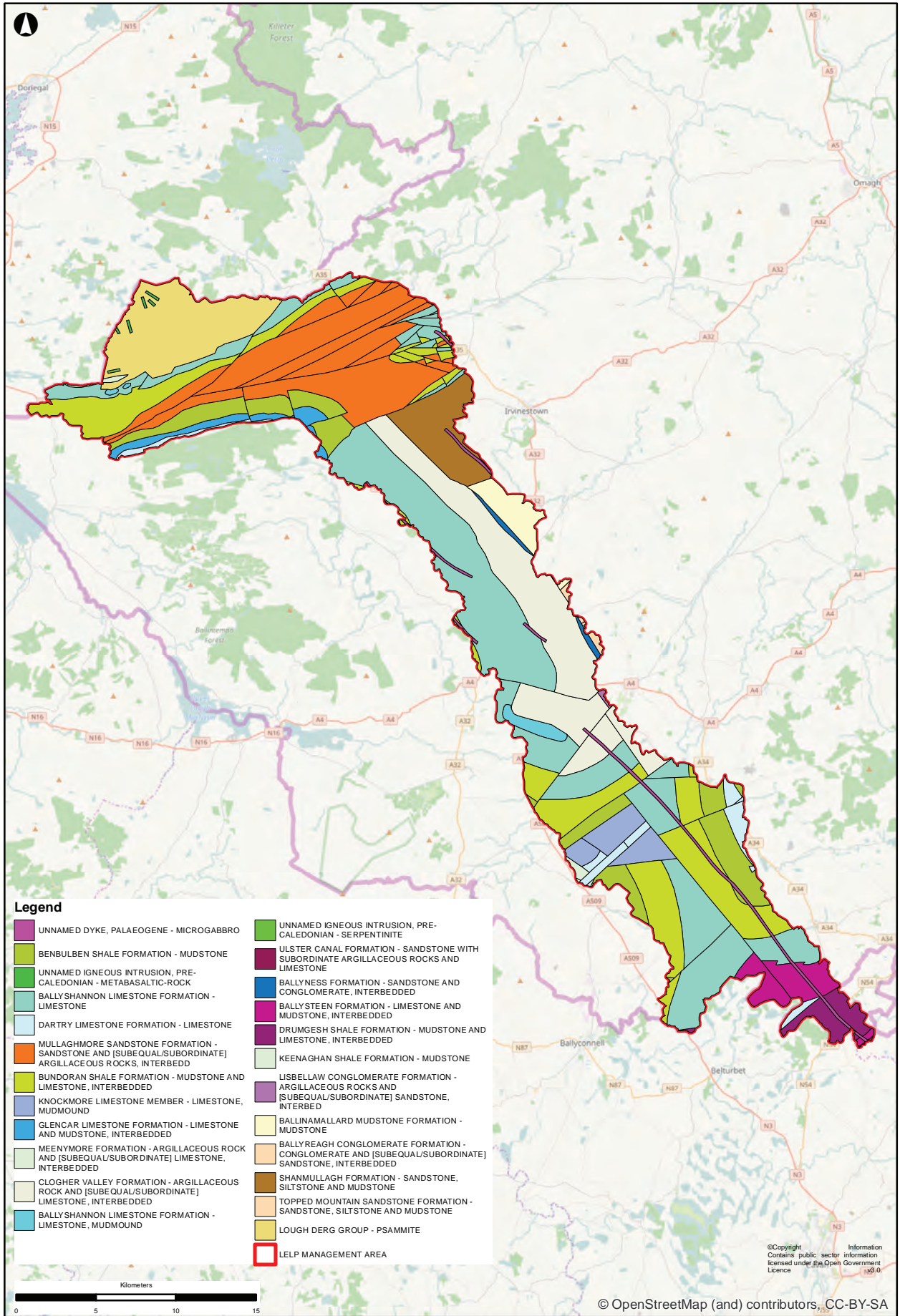


Figure 6.1 | Bedrock Geology



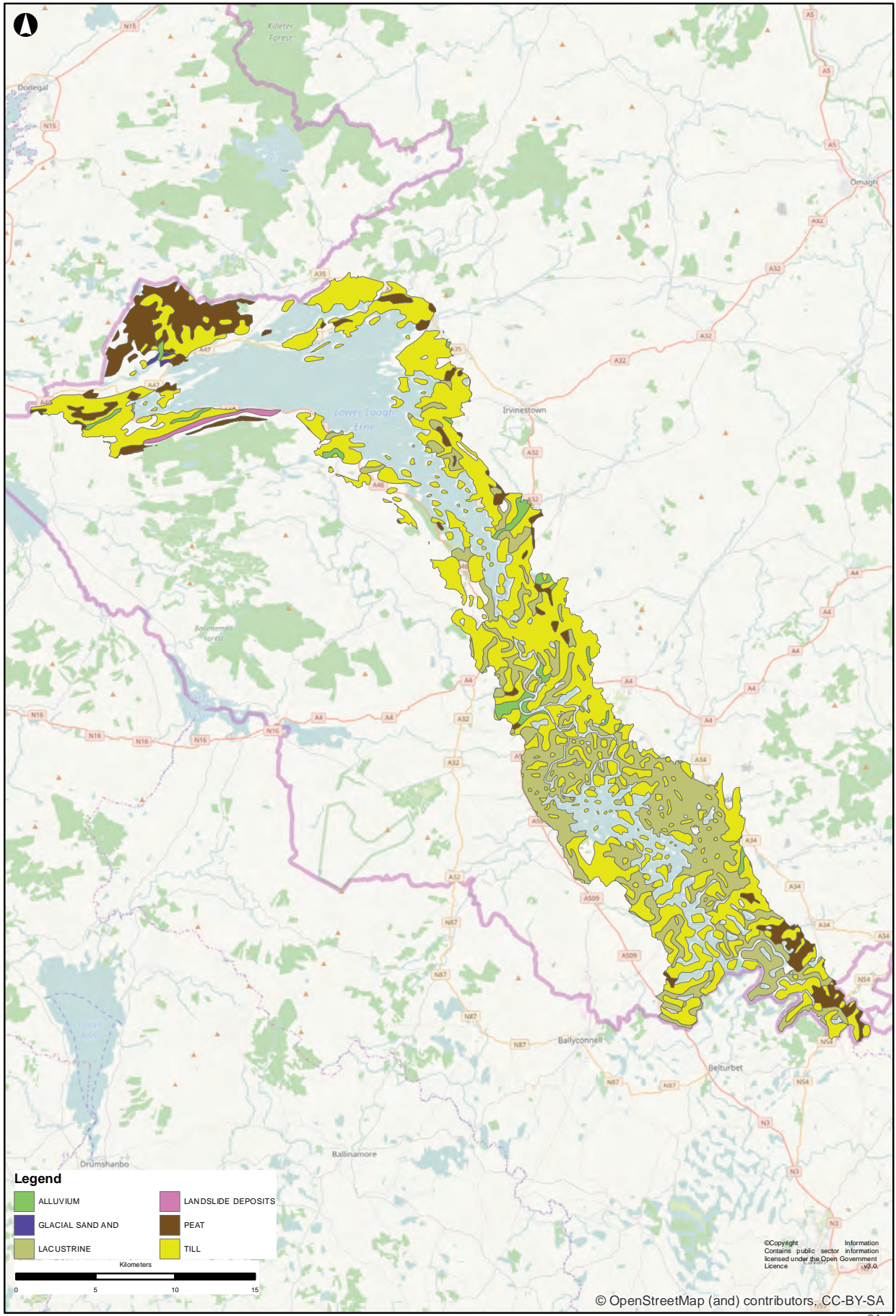


Figure 6.2 | Superficial Deposits



## 6.3 Water

As required under Water Environment (WFD) Regulations (Northern Ireland) (SR 2003 No. 544) River Basin Management Plans covering all of NI were published in December 2009. The plans describe where the water environment needs to be protected or improved, the timeframe to make these improvements and how that can be achieved. The plans are implemented through Local Management Areas (LMAs).

Two LMAs cover the LELP area, the Upper Lough Erne LMA and the Lower Lough Erne LMA. LMAs are a series of action plans that have been developed for the 26 LMAs across the Neagh Bann, North Western and North Eastern River Basin Districts. The action plans detail local measures identified to improve the water environment.

The Upper Lough Erne LMA Action Plan and Update (2014)<sup>9</sup> and Lower Lough Erne LMA Action Plan and Update (2013)<sup>10</sup> list LMA actions and updates on progress towards carrying out actions. Also listed within these documents are the current status and objectives of all Water Framework Directive (WFD) waterbodies within both LMAs.

The current status of waterbodies within both LMAs are shown in Figures 6.3 and 6.4.

Lower Lough Erne itself is classified at Moderate Ecological Potential with most bordering water body areas classified at good. However, some waterbodies further upstream in the Lower Lough Erne catchment are classified at either Moderate or Poor e.g. Ballycassidy River Upper, Glendurragh River and St Angelo Stream Erne.

Upper Lough Erne itself is classified at Moderate Ecological Potential with most bordering water body areas classified at Moderate. Many of the surface water bodies in the Upper Lough Erne LMA have been classified as less than good. The main impact is in dissolved oxygen levels and also invertebrate communities. These elements are mainly connected with organic enrichment and the rivers affected include: Colebrook, Newtownbutler, Lough-A-Hache, Woodford Tributary, Swanlinbar, Lacky, Killylacky and Finn.

In addition to organic enrichment, there is also evidence of nutrient enrichment indicated by the number of water bodies affected by impacts on macrophyte and diatom communities. These rivers include Colebrook, Newtownbutler, Tempo and Swanlinbar.

9 Available at: <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/water-report-significant-water-management-issues-upper-lough-erne-local-management-area-action-plan-and-update-2013.pdf>

10 Available at: <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/lower-lough-erne-swmi-joined.PDF>

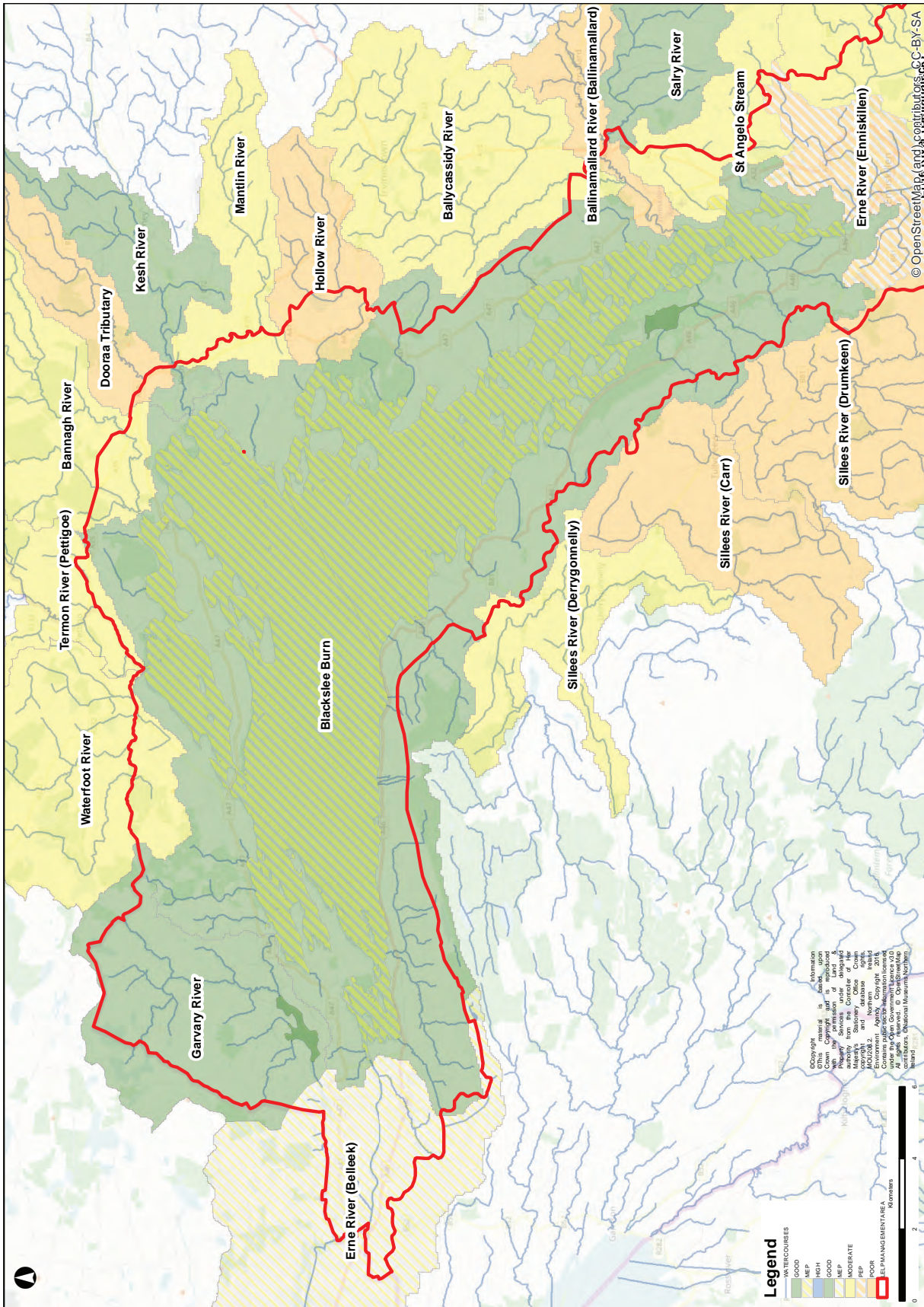


Figure 6.3 | Current Status Lower Lough Erne Waterbodies



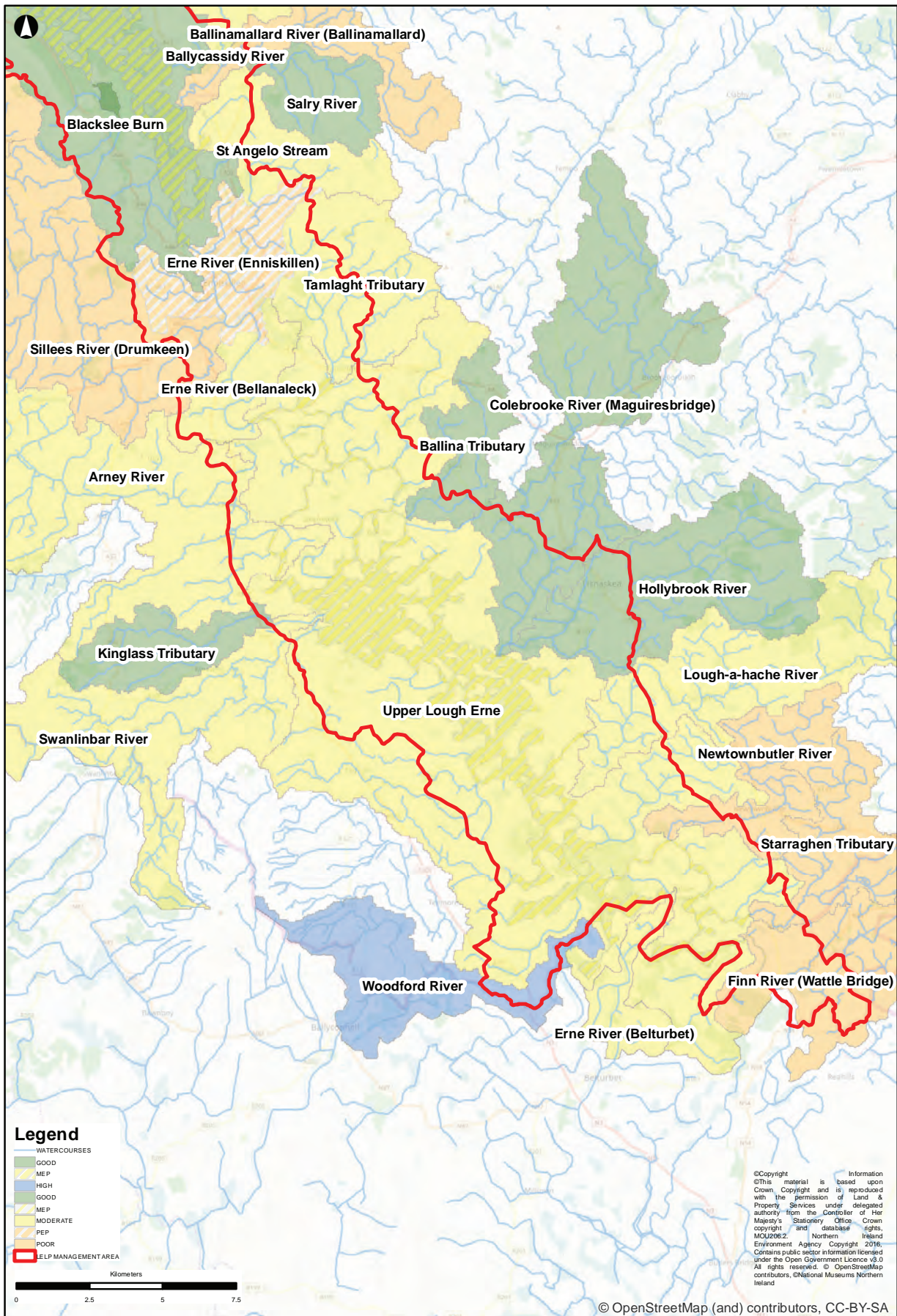


Figure 6.4 | Current Status Upper Lough Erne Waterbodies

## 6.4 Designated Sites

International, national and local designated sites include those protected under conventions such as RAMSAR, under EU designations the Natura 2000 network and national legislation i.e. NNRs and ASSIs. Locally designated sites are provided with protection under various planning policies and under general legislative requirements to protect biodiversity.

All designated sites within the LELP area are shown in Figures 6.5a and 6.5b.

The range of designations within the LELP area are outlined below and a list of international and national designated sites within the LELP area is included in Appendix D.

### International

Special Protection Areas (SPAs) – sites selected under the Birds Directive (EC) as being important areas for breeding, over wintering and migrating birds

Special Areas of Conservation (SACs) – areas of certain natural habitats protected under the EC Habitats Directive

Ramsar Sites – wetlands listed under the Ramsar Convention to protect those of international importance.

### National

Areas of Special Scientific Interest (ASSIs) - sites which are of special interest by reason of their flora, fauna, geological and/or physiographical features are designated under the Environment (NI) Order 2002 (as amended)

Nature Reserves and National Nature Reserves – managed by the DAERA or by agreement with another Department, a District Council or a voluntary conservation body

### Local

Local Nature Reserves (LNRs) and Wildlife Refuges – LNRs can be provided by District Councils under powers conferred on them under the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985

Wildlife Refuges are provided for under the Wildlife Order

Sites of Local Nature Conservation Importance – identified through the LDP process with policies provided in the plan for their protection and /or enhancement

## 6.5 Non-Statutory Nature Reserves

There are a number of non-statutory nature reserves within the LELP boundary (See Figure 6.6).

The RSPB Lower Lough Erne Islands Reserve consists of a series of forty-two islands within Lower Lough Erne. These islands are home to a variety of species and habitats and are managed for the most part for breeding waders and terns.

Ulster Wildlife (UW) looks after 18 nature reserves across Northern Ireland. UW reserves are located within the LELP area, the Isle Namanfin and Inishcreagh Island.

The Isle Namanfin reserve is located in Lower Lough Erne and is one of a few localities in NI where ivy broomrape (*Orobanche hederæ*)<sup>11</sup> is found. The area is also notable for garden warbler which is a scarce breeding bird species in Ireland. It is also noteworthy for other birds such as song thrush, spotted flycatcher, bullfinch and reed bunting. Inishcreagh Island is located in Upper Lough Erne and with some interesting woodland.

The Devenish Local Nature Reserve is situated within Enniskillen and is managed by the Devenish partnership for the enjoyment of the local community.

<sup>11</sup> Ivy broomrapes is a parasitic plant, attaching itself to the roots of its host species, ivy.



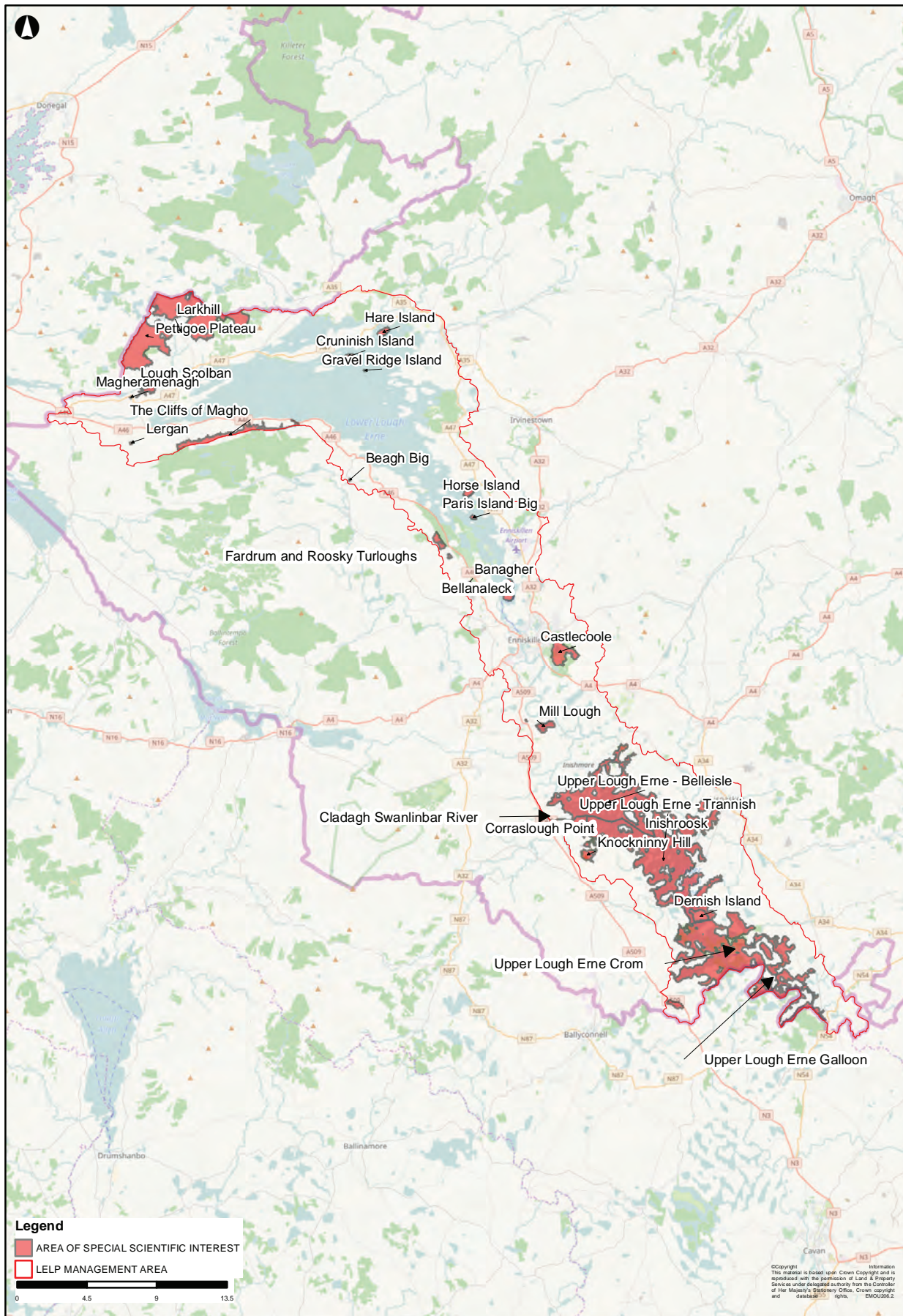


Figure 6.5a | Designated Sites



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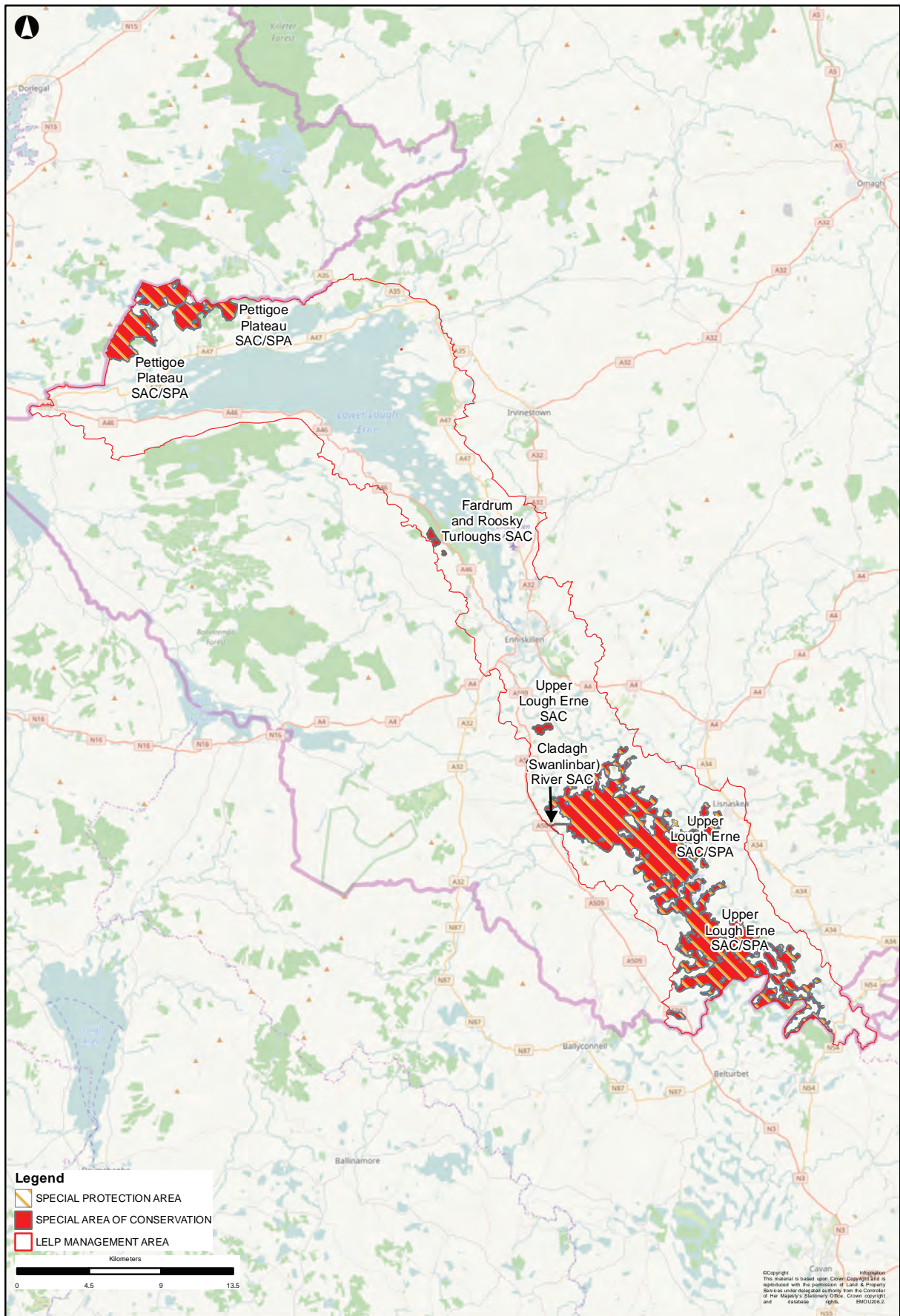


Figure 6.5b | Designated Sites



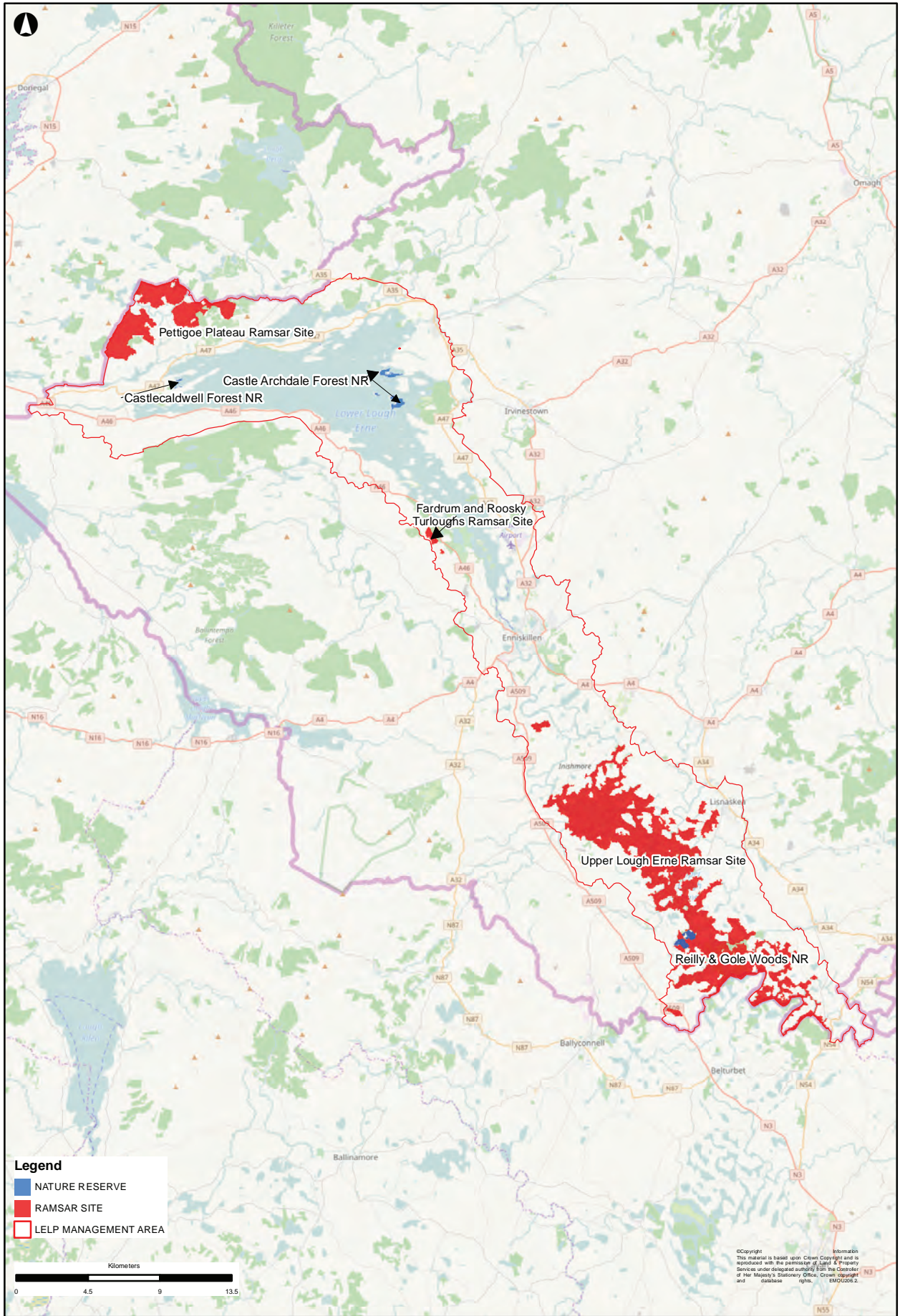


Figure 6.6 | Nature Reserves

## 6.6 Habitats

The underlying geology, soils, landscape and prevailing climate, in tandem with the local history of human induced change mostly through agricultural improvement has resulted in the presence of a wide variety of habitats within the LELP area.

The NI Biodiversity Strategy 2020 initially identified 40 habitat types as priorities for conservation action in Northern Ireland. This was later revised to 51 in 2010 which may be subject to change in the coming year. The Fermanagh and Omagh District has examples of 30 priority habitats such as upland heathland, blanket bog, mesotrophic lakes, parkland, mixed ashwoods and oakwood. All of these habitats are represented within the LELP area. The FOLBAP Audit 2014 provides further information on these priority habitats which occur in the FODC area. Specific locations where good examples of habitats can be found are listed under Section 6.7.1.

The focus of government conservation policy on protecting and managing high-value habitats highlights the vulnerability of intermediate-value habitats which have no protection. These habitats contain much of the species diversity in the countryside. They also provide ecosystem services that provide food, materials and water, contribute to flood control and store carbon. They can be damaged or lost relatively quickly as land use and economic circumstances and land use change.

As described in Section 4.2.2 habitat data for the entire area was identified from the LCM2007 dataset. The results of this habitat mapping exercise are presented in Figure 6.7.

The broad habitat types within the LELP area are discussed below in terms of their coverage according to the LCM2007 dataset. As already recognised there may be shortcomings in the site specific accuracy of this dataset, however it is considered likely to give a relatively accurate area for broad habitat types over the entire LELP area and will be useful, when used in tandem with other data, in identifying the need for landscape scale conservation measures such as creating wildlife corridors, creating increased areas of semi-natural habitat or in identifying suitable locations to create new, or enhance existing, stepping stone sites for mobile species.

The overall coverage for broad habitats in hectares is presented in Table 7 (derived through analysis of LCM2007 data). The vast majority of the LELP area (42.6%) is dominated by improved grassland with freshwater covering the next greatest expanse of area (27.5%). Other more common habitats are those which come under the category of ‘broad-leaved, mixed and yew woodland’, ‘rough low-productivity grassland’, ‘coniferous woodland’ and ‘bog’.

**Table 6 | LCM2007 Land Cover (Broad Habitat) Types**

Land Cover Type	Area (ha)	Percentage of total
Improved grassland	22,403	42.6
Freshwater	14,487	27.5
Broad leaved, mixed and yew woodland	4,412	8.4
Rough low-productivity grassland	2,283	4.3
Coniferous woodland	1,823	3.5
Bog	1,821	3.5
Arable and horticulture	1,540	2.9
Built up areas and gardens	1,525	2.9
Dwarf shrub heath	1,223	2.3
Natural grassland	788	1.5
Inland rock	236	0.4
Acid grassland	34	0.1
Fen marsh and swamp	28	0.1
Calcareous grassland	5	0.0



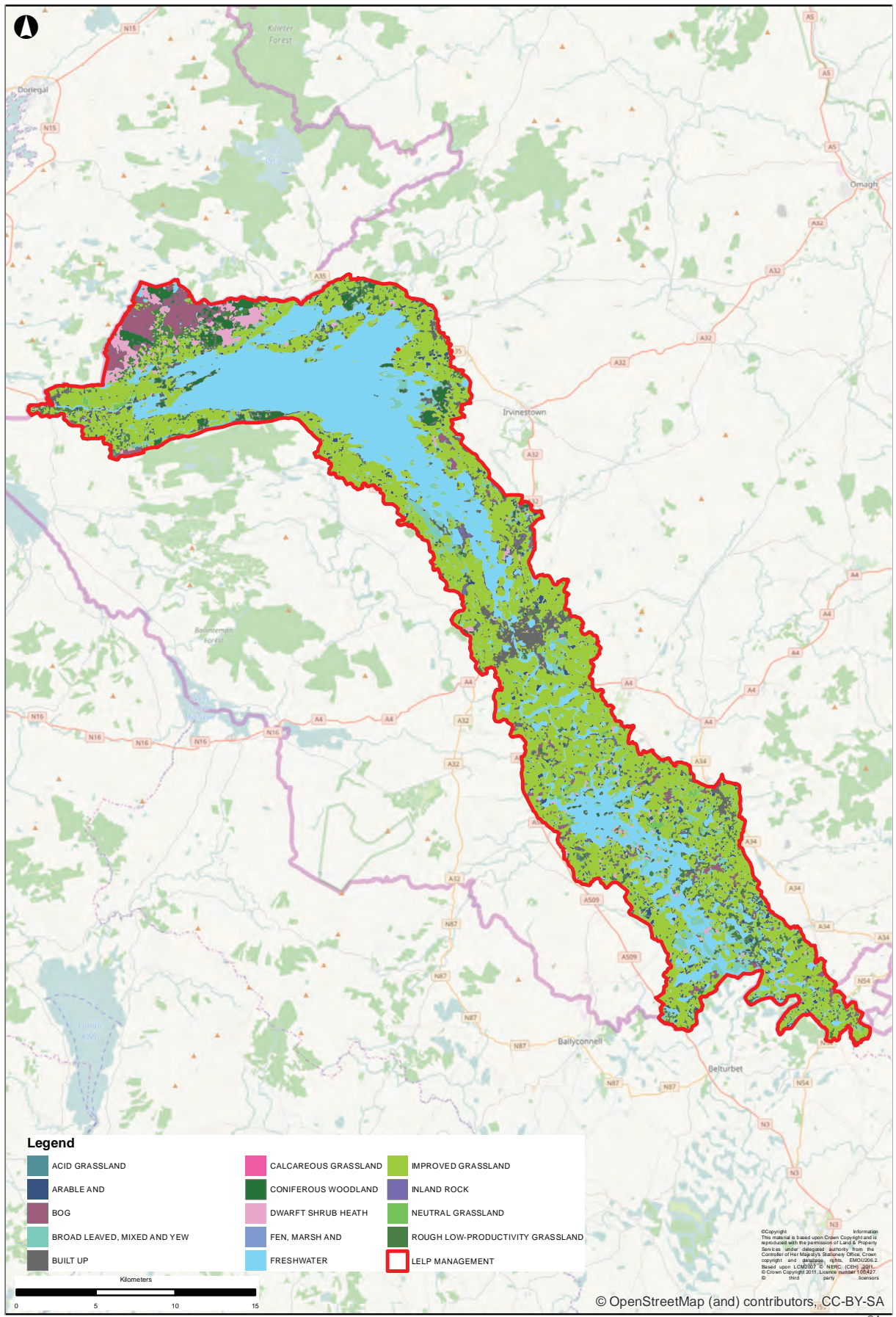


Figure 6.7 | LCM2007 Habitats

Semi natural habitats within the LELP area are discussed below with the main threats to each habitat identified. Recommendations on how these threats might be addressed are provide in Section 9.

The Northern Ireland Countryside Survey (NICS) 2007: Broad Habitat Change 1998-2007 (Cooper et al., 2009) outlines general trends for habitats in Northern Ireland, as identified through the Northern Ireland Countryside Survey. The broad habitats within NI and where mentioned, in the Fermanagh District, are discussed in the report and results are summarised below. It is considered that these broad habitat changes provide a general indication in the trends in habitat changes within the LELP over the period 1998-2007, acknowledging that the results cover the entirety of NI.

Key changes identified by NICS 1998 (Cooper and McCann 2002) were the loss of semi-natural habitats by conversion to agricultural grassland, damage to bog by peat cutting and detrimental effects of heavy grazing on heath and bog. Issues of succession to scrub and woodland in semi-natural vegetation, increased rural building and a much decreased area of arable crops were also identified. Habitat change was least in lakeland fen, swamp and reed beds.

A brief description is provided below of habitats which are considered to be of greatest relevance to the LELP area and which are in need of potential actions as outlined in Section 9.3.2

### **Freshwater**

The lakes of Lower and Upper Lough Erne are the dominant features of the LELP landscape. There are also smaller lakes and a network of freshwater streams and rivers within the Lough Erne basin with the catchment to the south of the LELP area influenced not only by inputs from NI but also from the Republic of Ireland. Notable rivers include the Cladagh River, Erne River, the Sillees River, and the Colebrooke River. Some of catchment in the north of the LELP area is influenced by limestone geology creating conditions suitable for freshwater crayfish and freshwater pearl mussel. The main threats to freshwater habitat is water quality and invasive species, both of which can alter trophic states and therefore the status of waterbodies as identified under the Water Framework Directive.

### **Fen, Marsh and Swamp**

Fen, Marsh and Swamp consisting of rush-dominated vegetation of peaty soils, marshy grasslands and water-inundated vegetation provide valuable transition zone opportunities for wildlife including plants, invertebrates and wildfowl. This is considered a key habitat for the LELP area and has been identified as being subject to pressures including a lack of clarity regarding lake shoreline ownership with associated development, and agricultural pressures.

### **Uplands, Bog and Heaths**

In addition to these systems being important reservoirs for biodiversity, they are also valuable on a number of other fronts including functioning as carbon sinks and providing an important flood alleviation role. The largest expanse of bog in the LELP area is concentrated in the Pettigoe Plateau. This area is not considered to currently be under threat from recreation and there exists the opportunity to increase use of the area for both recreational and educational purposes.

### **Semi-natural Grassland**

Semi-natural grasslands are still widespread in the LELP area however they have declined in recent decades due to agricultural intensification. There are four NI priority habitat types present in the LELP area namely; lowland meadows, calcareous grassland, lowland dry acid grassland, and purple moor grass and rush pasture. This habitat is a key habitat for breeding waders, Irish hare, marsh fritillary and other lowland species and threats to this habitat include land drianage and agricultural intensification.



### **Broadleaved Woodland**

Northern Ireland has around 111,000 hectares of forest and woodland (8% of land cover) of which 62,000 hectares, or 56%, is managed by the Forest Service, an executive agency of DAERA. Good examples of broadleaved woodland within the LELP area include ash woodland at the Cliffs of Magho and on many of the islands within Upper and Lower Lough Erne. Wet woodlands within the LELP area are dominated by birch, alder or willow, and are frequently found along the fringes of lakes and rivers, with particularly good examples identified along the shores of Upper Lough Erne.

The most imminent and significant threat to this habitat is from ash die back which has the potential to destroy all ash tree related habitat within the LELP area. Other ongoing threats are over grazing by domestic and wild stock and potential impacts from recreational visitors.

### **Ancient Woodland**

Ancient woodland is a specific type of woodland that by definition are areas which have had woodland cover for centuries and remain relatively undisturbed. Over hundreds of years, they have evolved into complex communities of trees, plants, fungi, microorganisms and insects that rely on these undisturbed ecosystems.

Ancient woodland can be found throughout the LELP and because of the area's Atlantic influenced climate contains lush growths of epiphytic lichens and bryophytes. Some of the most interesting sites of ancient and long-established woodland cover in Fermanagh occur along the shores and on the islands of Lough Erne, particularly at Crom, Castle Archdale, and Castle Caldwell.

'Back on the Map', is an inventory of ancient and long-established woodland in NI which was started by the Woodland Trust in order to create a record of ancient woodland for the very first time. Locations of ancient woodland within the LELP area are highlighted on Figures 9.1 and 9.2 and the total cover of this valuable habitat within the LELP area is 209ha. Some of the major threats to ancient woodland in the LELP area are considered to be: inappropriate development in areas where ancient woodland has not been mapped; inappropriate levels of recreational use in ancient woodland causing degradation of habitat; inappropriate levels of grazing by domestic and wild herbivores (this has been identified as an issue at the Cliffs of Magho); and ash die-back which threatens to wipe out all ash woodlands and individual ash trees both within the LELP area and throughout NI.

### **Hedgerows**

Hedgerows are identified in the FOLBAP as a broad habitat for action. Large diverse hedgerows are a feature of the LELP area and are a distinctive feature in the landscape providing foraging, commuting and refuge for animal species. However threats to this habitat have been identified to include an increase in fencing throughout the area which has been mirrored by a reduction in hedgerow of almost the same extent, and the spread of ash die back.

Protection, maintenance and creation of hedgerows should be a priority for LELP action.

### **Coniferous Woodland**

The extensive coniferous forests in the LELP area contribute to one of the largest continuous blocks of forestry in Northern Ireland. Because of their lack of native tree stock, and their potential to cause and increase in freshwater acidification and sedimentation, coniferous forests are not highly valued for their biodiversity value. However they provide a valuable recreational resource and a potentially very important refuge for red squirrel populations.

## 6.7 Species

Outlined in the following sections is a summary of the main taxa groups for which NI has listed priority species. The NI Biodiversity Strategy 2020 identifies NI Priority species requiring conservation action with the list now standing at 481 species, an increase of 271 on the ‘old’ list when the NI Biodiversity Strategy was being prepared. These include species of bees, beetles, birds, butterflies, crustaceans, fish, fungi, lichens, liverworts, mammals, molluscs, mosses, moths, reptiles and vascular plants. Of the 481, 119 occur in the FODC area, most of which occur in the LELP area due to its wide variety of habitat types. The FODC LBAP Audit 2014 provides further information on priority species which occur in the FODC area. Priority species within each species grouping are discussed in the following sections.

Within each section below some background to the taxa group is provided and where appropriate the NI priority species which occur or are considered likely to occur in the LELP area are identified.

Species, groups of species which might require similar conservation measures, or locations which are considered important for groups of species, are highlighted because of the importance of the LELP population(s) or because it is considered that they could act as flagship species for the LELP area.

It is considered that LELP can contribute towards the implementation of projects which can help to achieve actions for each species or species grouped as outlined in Section 9.

A request for all records held at CEDaR produced over 200,000 records. In order to produce a more manageable dataset the CEDaR records were limited to all protected species recorded within the last 15 years. This reduced the number of records in the dataset to 6279 covering a total of 375 species which are afforded some level of protection under NI legislation.

Figure 6.8, shows the general spread of a subset of this dataset with records only for NI Priority Species. Priority species are represented further in Figures 6.9 to 6.12. These figures are provided at scales which were considered sufficient for this report i.e. either covering the entire LELP area or splitting the LELP area into two sections, North and South. In order to query the records for a particular grid square or location, it would be more accurate to use GIS or the new CEDaR atlas once it has been brought online. These figures are provided to

give a snapshot overview of distribution of NI Priority Species records submitted to CEDaR over the past 15 years rather than site-specific up-to-date detailed records for analysis.

Species that have been identified as Priority Species in Northern Ireland are under threat and require conservation action. Criteria have been developed to ensure that Priority Species have been chosen using a scientific basis<sup>12</sup>. These species are grouped below as per the groupings presented on the Northern Ireland Priority Species website<sup>13</sup>.

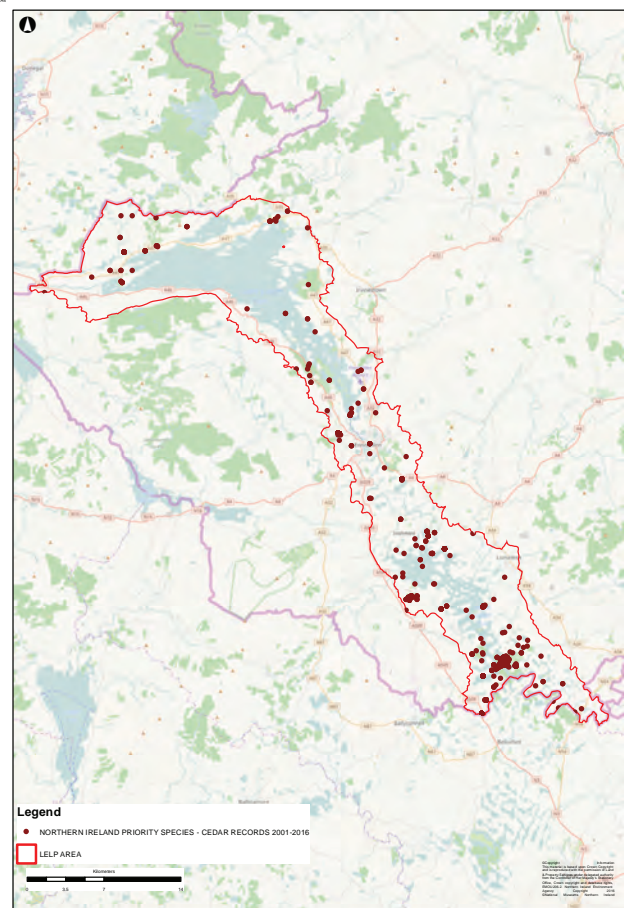


Figure 6.8 | NI Priority Species

<sup>12</sup> The criteria for selection as NI Priority Species are available at <http://www.habitas.org.uk/priority/criteria.html>

<sup>13</sup> <http://www.habitas.org.uk/priority/index.html>

### 6.7.1 Plants

CEDaR hold data for 17 NI priority plant species records over the period 2001-2016. The locations for these records are mapped on Figures 6.9a and 6.9b and the species are listed below:

- *Trichomanes speciosum* – Killarney fern
- *Ceratophyllum submersum* – soft hornwort
- *Stellaria palustris* – marsh stitchwort
- *Monotropa hypopitys* – yellow bird’s-nest
- *Anagallis minima* – chaffweed
- *Sorbus hibernica* – Irish whitebeam
- *Sium latifolium* – greater water-parsnip
- *Oenanthe fistulosa* – tubular water-dropwort
- *Euphrasia salisburgensis* – Irish eyebright
- *Galium uliginosum* – fen bedstraw
- *Carex elongata* – elongated sedge
- *Sisyrinchium bermudiana* – blue-eyed-grass
- *Epipactis phyllanthes* – green-flowered helleborine
- *Spiranthes romanzoffiana* – Irish lady’s-tresses
- *Platanthera bifolia* – lesser butterfly-orchid
- *Coeloglossum viride* – frog orchid
- *Neotinea maculata* – dense-flowered orchid

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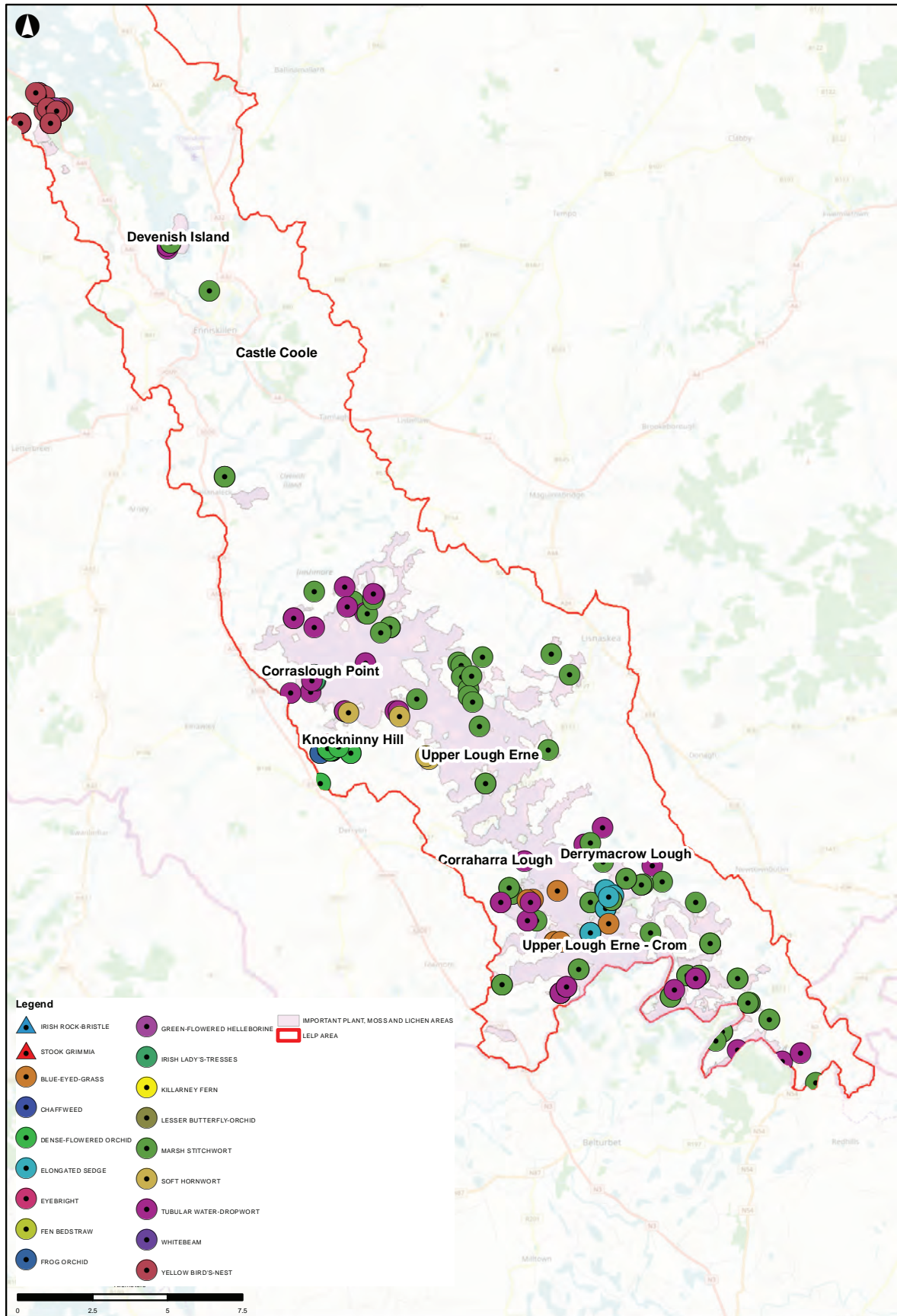


Figure 6.9a | NI Priority Plant and Bryophyte Species South



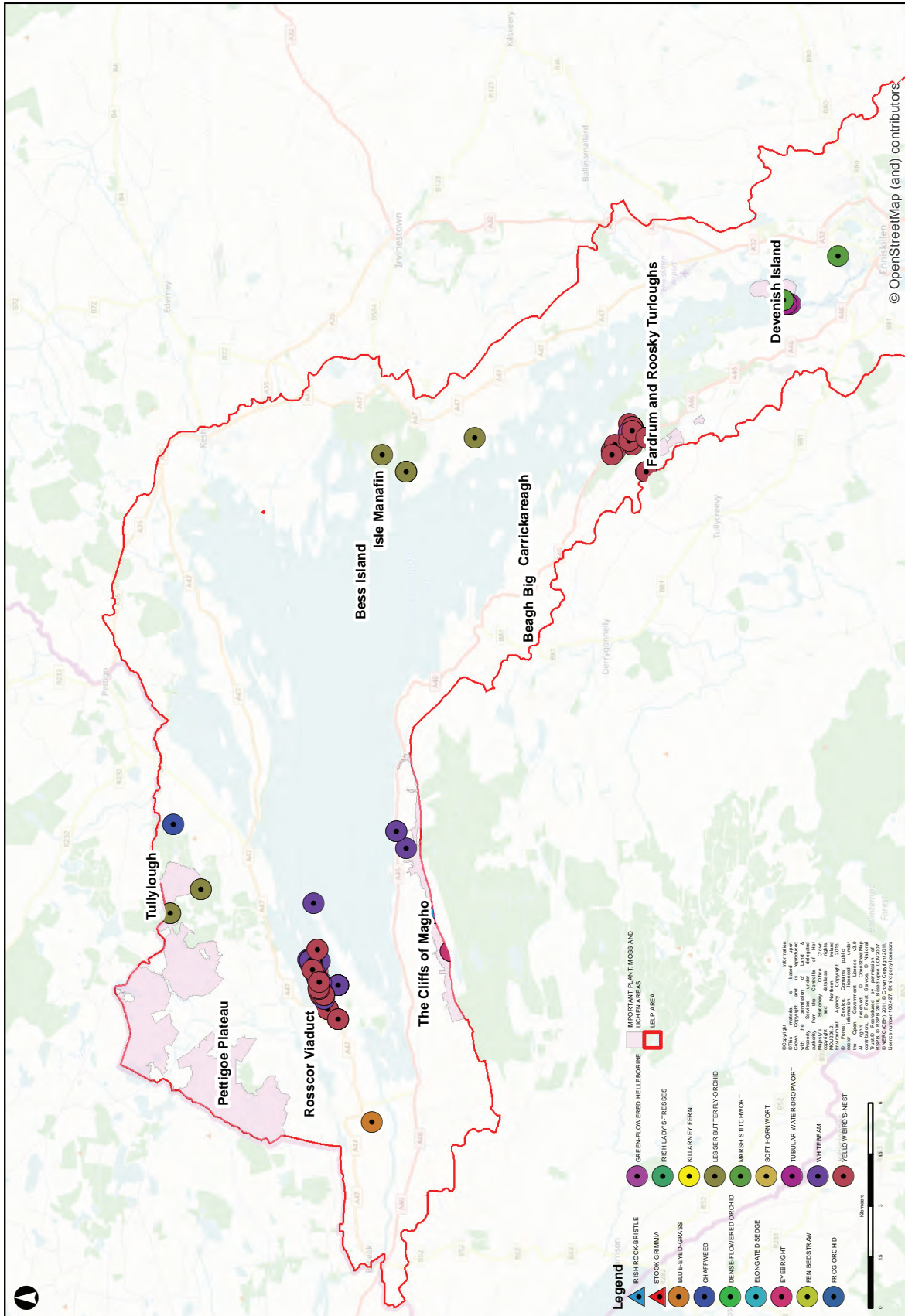


Figure 6.9b | NI Priority Plant and Bryophyte Species North



**Irish lady's-tresses** *Spiranthes romanzoffiana*  
(Source: Brett Francis)

In Europe, this wild orchid is confined to Ireland and western Great Britain. It usually grows in wet marshy ground which is not too acidic, and at low altitudes. In the past, sites have been damaged or destroyed by drainage, burying under dredged waste or agricultural improvement. It is a UK Priority Species and NI has about one-third of the total UK population. NI also holds about 50% of the total Irish population.

There is only one site for this species in Fermanagh at Corraslough Point ASSI, where it was first found in 1985. The plant has been seen there sporadically since then but was not recorded during the latest NIEA survey of the site in 2015. CEDaR records for this species (2001-2016) are shown in Figure 6.9.

In addition to the specific locations identified below as being particularly important for rare or protected plants or assemblages of plants, other habitats which are considered good locations for plant species are wooded stream and river banks, small patches of woodland - especially on limestone, substantial hedges and bridges. The important areas for plant species identified below are shown on Figures 6.9a and 6.9b.

- Knockninny limestone outcrop and hazel woodland;
- Upper Lough Erne islands and reedy bays;
- Corraslough Point with Irish lady's-tresses;
- Crom Estate with oak woods in which have been found bird's-nest orchid, toothwort and common wintergreen, ivy broomrape and blue-eyed grass;
- Corraharra Lough submerged pond weeds, emergent vegetation, sedge-rich marshy areas (part of Crom);
- Derrymacrow Lough wet woodland including adder's tongue, marsh fern, elongated sedge and cyperus sedge (part of Crom);
- Carrickreagh with bird's nest orchid, yellow bird's-nest and thin-spiked wood-sedge;
- Devenish Island;
- Namanfin with ivy broomrape;
- Bess island with wood vetch;
- Roscor Viaduct with bee orchid;
- Cladagh River Glen with toothwort, bird's-nest orchid and shady horsetail;
- Magho cliffs semi-natural woodland which is the site with the highest number of woodland species in NI with yellow saxifrage at the cliff base, shady horsetail in open places, and mossy saxifrage and welsh poppy along the cliff;
- Pettigo Plateau the most extensive area of lowland blanket bog in Northern Ireland with pool and hummock areas with the three species of sundew and pale butterwort in bog habitat;
- Tullylough with cranberry;
- Green Loughs at Fardrum with northern bedstraw, pond water-crowfoot, fine-leaved water-dropwort, bladder-sedge and water-plantain; and
- Beagh Big a dry limestone meadow with a great variety of species including yellow oat-grass.

A wide variety of threats have the potential to impact on individual plant species and important plant assemblages in the LELP area. These include agricultural intensification and abandonment, development in locations which have not yet been surveyed, and enhanced recreational access to sensitive locations.

### 6.7.2 Bryophytes

Bryophytes are a group of plants that include mosses, liverworts and hornworts. Mosses and liverworts have been called up-side-down or role-reversal plants. The green and often leafy part underneath that we would think of as the moss or liverwort itself, is equivalent to tiny parts within a flower, or to a small, rarely seen part of the fern. The part that is equivalent to all of the flowering plant or fern that we normally see, is the fruit of the moss or liverwort.

The LELP area contains a number of locations suitable for interesting assemblages of bryophytes including wetlands, limestone outcrops (especially north facing) and woodlands which are far enough west that they can support some oceanic species.

CEDaR records identify records for 2 NI priority bryophyte species over the period 2001-2016 both of which occur in the Cliffs of Magho area (general locations for these records are shown on Figure 6.9).

- *Seligeria oelandica* – Irish rock-bristle
- *Schistidium trichodon* – stook grimmia

The steep slope above the limestone crags of the Cliffs of Magho has several small flushes, in one of which Irish rock-bristle can be found. This limestone area is very rich in interesting bryophyte species, with woodland, grassland, limestone pavement, etc., and with a strong oceanic influence. However, the location is in need of further survey work.

Other interesting species found at Magho, some not known elsewhere in Ireland, include; *Pedinophyllum interruptum*, *Fissidens rufulus*, *Homomallium incurvatum*, *Seligeria acutifolia*, *Tortella densa*, *T. fragilis* and *Hymenostylium insigne*.

Pettigo Plateau with its extensive lowland blanket bog habitat which includes areas of pools and hummocks is home to a range of *Sphagnum* species.

The main potential threats to bryophyte communities are from disturbance of habitats through under or over grazing or inappropriate development or agricultural intensification which can result in drying out of wetter habitats.



**Irish rock-bristle** *Seligeria oelandica*  
(Source: Michael Lüth)

In Europe, this wild orchid is confined to Ireland and western Great Britain. It usually grows in wet marshy ground which is not too acidic, and at low altitudes. In the past, sites have been damaged or destroyed by drainage, burying under dredged waste or agricultural improvement. It is a UK Priority Species and NI has about one-third of the total UK population. NI also holds about 50% of the total Irish population.

There is only one site for this species in Fermanagh at Corraslough Point ASSI, where it was first found in 1985. The plant has been seen there sporadically since then but was not recorded during the latest NIEA survey of the site in 2015. CEDaR records for this species (2001-2016) are shown in Figure 6.9.



### 6.7.3 Lichens

Lichens are a compound organism in which a fungus (called the mycobiont) lives together in symbiosis with an alga and/or cyanobacteria (called the photobiont, because it photosynthesises). Together each combination forms a stable identifiable entity, with both organisms benefitting from the association.

CEDaR records identify no NI priority lichen species over the period 2001-2016.

However, habitats within the LELP area where lichens can be found in abundant and diverse communities include:

- Bare rock surfaces – which are often entirely covered by lichens;
- Mountain tops – where they are often abundant and diverse;
- Stone walls and graveyards –important, and easily accessible lichen habitats;
- Tree bark, especially parkland trees e.g. hundreds of lichen taxa recorded at Crom;
- Peat bogs;
- Periodically submerged margins of lakes and rivers; and
- Soil or rock contaminated with heavy metals.

Because some lichens are sensitive to pollution, particularly from atmospheric sulphur dioxide and ammonia meaning this species group has long been used as environmental indicators.

The species New Forest beech lichen (*Enterographa elaborate*) is a NI priority species found only on one mature ash tree in woodland in NI, clinging to the north-facing, limestone scarp at Hanging Rock National Nature Reserve. Although this is not located within the LELP area is quite possible that this species occurs in similar situations within the LELP area.

Inishturk Island in Lower Lough Erne contains broadleaf woodland habitat and is considered to be one of the most important sites in NI for lichens.

Threats to lichen communities and species are development or clearance of habitat supporting lichen communities and the spread of ash die back resulting in the destruction of ash trees which might support as yet unidentified communities.



*Strigula lateralis*  
(Source: [britishlichens.co.uk](http://britishlichens.co.uk))

This species has been found only once in Northern Ireland, on hazel *Corylus avellana* in Correl Glen which is a semi-natural broadleaved woodland just outside the LELP area.

It is rare with both the UK and Irish population restricted to Northern Ireland. It is considered likely that this species would occur within nearby LELP woodland. Threats to the species include deforestation of conifer plantations, which could have an effect on light and water inputs to any native woodland and sudden change in microhabitat conditions, such as ivy creeping up the trunk of the host tree.

The species was not identified in the field but analysed later by a specialist of this taxonomic group. Until Ireland fosters this level of research in lichenology, crustose species like as this one will be unrecorded.

#### 6.7.4 Mammals

There are eighteen NI Priority mammal species. Of these the LELP area is home to all non-marine species on the list which includes:

- West European hedgehog (*Erinaceus europaeus*);
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*P. pygmaeus*);
- Nathusius' pipistrelle (*Pipistrellus nathusii*);
- Brown long-eared bat (*Plecotus auritus*);
- Irish hare (*Lepus timidus hibernicus*);
- Red squirrel (*Sciurus vulgaris*);
- Pine marten (*Martes martes*); and
- Otter (*Lutra lutra*).

The CEDaR records held for NI priority mammal species for the LELP area (2001-2016) are shown on Figure 6.10.

In order to provide case studies, both red squirrel and bats are discussed below however, as with any taxa grouping not all mammals will have the same habitat requirements. For example, areas of unimproved or semi-natural grassland with lots of field margin habitat will benefit Irish hare, whilst otter will benefit from clean rivers and protection of their resting places.

Hedgehog are found throughout the LELP area in woodland, hedgerows, grassland and gardens. The main threats to the population are loss of habitat and road traffic.

Pine marten is a rarely seen species which is found throughout the LELP area with a habitat preference for coniferous or mixed woodland. Similarly to hedgehog the main threats to the population are loss of habitat and road traffic with the added threats of lack of suitable den sites and persecution. Expansion of pine marten distribution throughout Ireland in recent years appears to have benefited red squirrel populations.

Otter are found throughout the LELP area with a preference for unpolluted rivers and lakeland. The main threats to otter populations are water pollution and loss of habitat. Otter is also an EU protected species listed under Annex II of the Habitats Directive. However, the NI otter population is considered to be healthy at present.

Red squirrel, Irish hare and bat species and their respective threats are discussed below.

#### Red Squirrel (*Sciurus vulgaris*)

Red Squirrel is protected but much of its habitat is not and therein lies the challenge. According to the LCM2007 habitat land cover mapping there is approximately 1823ha of coniferous forest within the LELP area. It is these conifer forests that have provided a refuge for reds in a landscape that has lost most of its native deciduous woodlands. Conifer forests also provide a refuge in another respect in that grey squirrels, a serious threat to reds, do not favour conifer forests.

In addition to these habitats, there are wet woodlands fringing the lough shores which provide additional opportunities for reds. Many of the islands on both Upper and Lower Lough Erne are wooded and these also are home to reds.

A less obvious but critical element of the landscape that has favoured red squirrel is the extensive network of hedgerows that criss-cross the county. Hedgerows play a vital role in acting as wildlife corridors for red squirrels and a myriad of other species. These features allow red squirrel to move safely across the landscape, to colonise new woodlands and forests and of course to forage in.

The loss of hedgerows in the LELP landscape is seen as a significant threat to red squirrel population. This loss of hedgerow is likely to be exacerbated by the spread of ash dieback.

#### Irish hare (*Lepus timidus hibernicus*)

The Irish hare is found only in Ireland and is a subspecies of the mountain hare. It was once widespread and common but is believed to have declined significantly since the 1970s. It prefers undisturbed grassland where there is plenty of ground cover.

The wide distribution of semi-natural grassland and good quality hedgerows mean that Irish hares are widely distributed in the LELP area.

Threats to this species include intensification of farming practices, loss of daytime resting sites, particularly rushes and good quality hedgerows, and hare coursing. In the LELP area it is considered that a loss of good quality hedgerows, in-combination with potential abandonment or intensification of areas of semi-natural grassland will result in an adverse impact on the local hare population.

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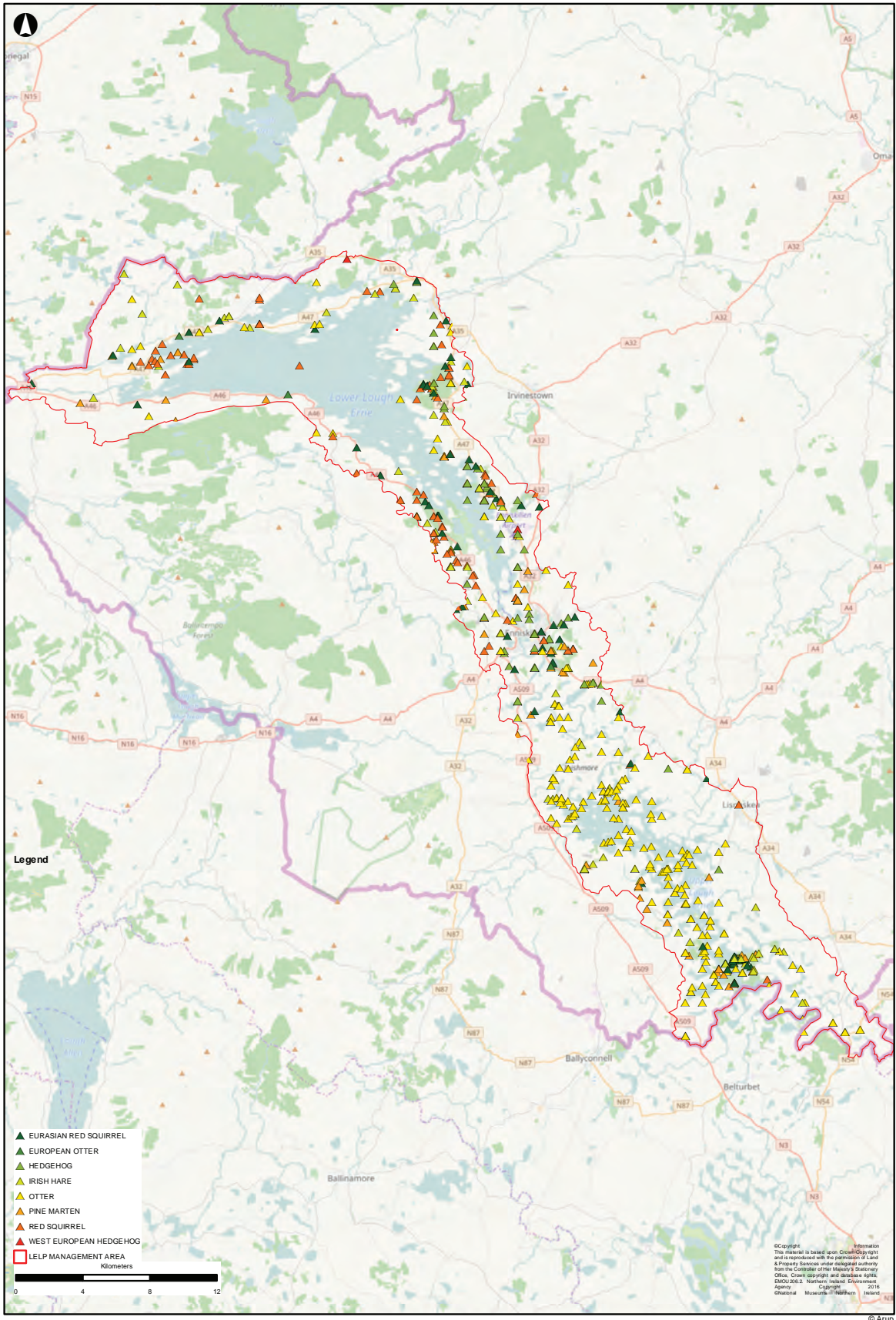


Figure 6.10 | NI Priority Mammal Species





**Whiskered bat** *Myotis mystacinus*  
(Source: United Environmental Services)

The whiskered bat is the smallest of the *Myotis* species of bat in Ireland and is one of the rarest of all Northern Ireland's bats. The whiskered bat emerges in early dusk, usually before Daubenton's bat and Natterer's bat and they forage about 1.5-6m above the ground with a rapid, agile and weaving flight. During the summer, adult females form large maternity colonies, often in buildings. During the winter, they hibernate in caves and cellars, but may also hibernate in houses and tree holes. Little is known about their breeding behaviour, although mating occurs during the September to October period and swarming behaviour at the entrances to caves and disused mines has been observed.

The majority of records for whiskered bat are from the Crom Estate but this species is likely to be found and to roost throughout the LELP area.

### Bat Species

All eight native species of bat are found within the LELP area (Bat records are not presented in this report in the interests of protecting sensitive locations). These include:

- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*P. pygmaeus*);
- Nathusius' pipistrelle (*P. nathusii*);
- Leisler's (*Nyctalus leisleri*);
- Brown long-eared (*Plecotus auritus*);
- Whiskered (*Myotis mystacinus*);

- Natterer's (*M. nattereri*); and
- Daubenton's (*M. daubentonii*).

The lesser horseshoe bat (*Rhinolophus hipposideros*) is the only bat species recorded in RoI that has not yet been recorded in Northern Ireland.

The recording of bats has a strong tradition and bats are relatively well recorded within the LELP area, particularly in the vicinity of large estates such as Crom. However, all bats are protected at an international level and bats as a group are considered to have declined therefore maintenance of roosting, foraging and navigational routes such as hedgerows and treelines is considered very important to the protection of local populations.

### 6.7.5 Birds

The LELP area is home to a rich diversity of bird species and is particularly important for several key species of conservation concern. There are eleven red listed breeding species, seven red listed wintering species, thirty-six amber listed breeding species and five amber listed wintering species in the area (Colhoun and Cummins, 2013).

The Lough Erne basin holds the largest remaining assemblage of breeding waders, a group of migratory water birds which typically have long legs and bills, in Northern Ireland and is one of the most important areas for this group across the whole of the island of Ireland. Specifically, this includes breeding curlew *Numenius arquata*, lapwing *Vanellus vanellus*, redshank *Tringa totanus* and snipe *Gallinago gallinago*; the first three species are red listed whilst snipe is amber listed, breeding birds of conservation concern in Ireland. CEDaR records for these species are shown on Figures 6.11a and 6.11b. It is important to emphasise that it is the fact that these species breed within the LELP rather than pass through or spend the winter months here that is most important. Large numbers of lapwing, snipe and curlew may be seen within the LELP area during the non-breeding season but these are most often migrants which breed in other countries including Iceland, Scotland, Scandinavia or other countries in northern and central Europe.

Breeding waders were once widespread within the LELP area breeding in hay meadows, unimproved rush pasture and species rich grasslands. Agricultural intensification starting with a switch to silage from hay, the increased use of inorganic fertilisers, improved drainage and the more frequent use of more productive livestock breeds, particularly continental breeds of

cattle has changed the countryside to such a degree that the populations of all four species have decreased dramatically. Hay meadows decreased significantly in Fermanagh from the mid-1970s.

The first full survey of breeding waders in Northern Ireland took place between 1985 and 1987; there have been several repeat surveys since.

The 2013 NI resurvey estimated 526 (+ 95% CI: 252-783) breeding pairs of curlew, 860 (277-1545) pairs of lapwing, and 1,123 (527-1782) pairs of snipe in Northern Ireland in 2013. Respectively these estimates represent significant declines of -82%, -89% and -78% in mean breeding densities since 1985-87. Redshank were too scarce and thinly distributed to determine a trend though this in itself suggests that the former rate of a 68% decline has not slowed. The range of all species has continued to retract westwards with the majority of occupied 10km squares being in Counties Tyrone and Fermanagh.

This rapid rate of decline indicates that urgent remedial conservation action is required to halt the disappearance of these species from the Northern Ireland countryside. Curlew in particular, is in a perilous state across Ireland with extinction in ROI predicted within ten years and in NI not long after if successful action is not undertaken.

A fourth breeding wader species is the Golden Plover



**Curlew** *Numenius arquata*  
(Source: Crossing The Line Films)

The curlew has shown a decline of >80% of its breeding population in NI in the past 20 years. This species, along with other breeding waders, can be found breeding in hay meadows, unimproved rush pasture and species rich grasslands. The breeding curlew on the island of Ireland has been recognised to be in particular need of action to protect it.

*Pluvialis apricaria*, a red-listed breeding species of conservation concern in Ireland (Colhoun K and Cummins S 2013). Although closely related to Lapwing this species breeds on wet bogs and heaths in the uplands. The Northern Irish population may be less than fifteen pairs and is found within the LELP area on Pettigo Plateau SAC/SPA/ASSI. This species is likely to have declined due to changes in grazing pressure and livestock type over the past twenty-five years.

The LELP area also supports a unique inland breeding colony of Sandwich tern *Thalasseus sandvicensis*. This species usually breeds at coastal locations on islands and undisturbed promontories and spends the winter off the west coast of Africa. The Lower Lough Erne colony has been known since at least Praeger's time. The population has fluctuated over the years and regular population monitoring has been undertaken almost annually since 1968. In 2016 226 pairs nested, the highest number ever recorded. The islands of the Lower Lough also support breeding Common terns and five breeding species of gull.

In winter large numbers of wildfowl and waders arrive from many points of the compass. Greenland white-fronted geese *Anser albifrons flavirostris* arrive from western Greenland, whooper swans *Cygnus cygnus* arrive from Iceland whilst a range of duck species arrive from Iceland, northern and central Europe. The Upper Lough Erne SPA is designated because of its population of wintering whooper swans.

The garden warbler *Sylvia borin* is a small trans-Saharan migrant songbird which returns to breed in April. Although this species is a very common breeding bird across Europe and Great Britain, in Ireland it is a very scarce breeding bird with the population being concentrated within the Erne-Shannon system. Within LELP it is found most easily at Crom Estate though it is also present on several islands of RSPB's Lower Lough Erne Islands Reserve.

The white-tailed eagle *Haliaeetus albicilla* (also called erne) last bred in western Ireland in a wild state in the early twentieth century, having become extinct in Northern Ireland much earlier. In 2007 a reintroduction programme was launched in the County Kerry centred on Killarney National Park and individuals of this species have been recorded consistently over the past ten years on Lough Erne within the LELP area. Having recently been seen flying over Enniskillen, it is hoped that this species will breed in the LELP area within the next few years.

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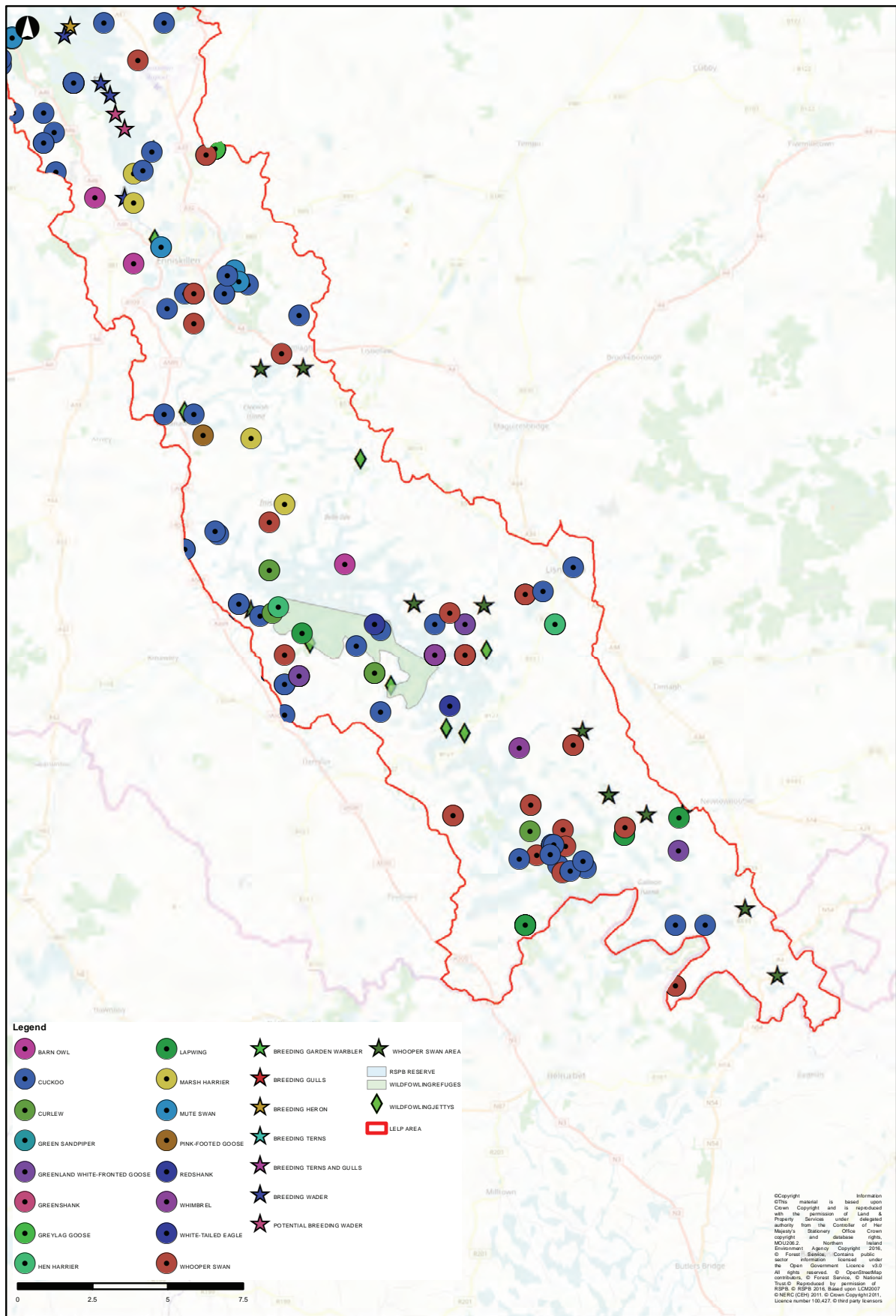


Figure 6.11a | NI Priority Bird Species South





## RSPB in Fermanagh

The RSPB first established a nature reserve at Castle Caldwell on Lower Lough Erne in 1968. By the mid-1980s it was apparent that land use change was having a dramatic impact on breeding waders (see above). RSPB began to expand the reserve to protect important islands with the first purchase in 1988. Since then the Lower Lough Erne Islands RSPB Reserve has expanded to 436ha/1076 acres and now includes forty-two islands, a small farm and a license agreement at Castle Caldwell Forest. The reserve includes sites owned by RSPB, FODC, DOENI, NI Forest Service, DAERA and private landowners.

The primary focus of work on the reserve is to trial techniques to reverse declines in breeding waders. In this respect there has been some success with the overall population increasing since focussed management began in 2000 from 118 pairs to 254 pairs in 2016; the reserve also holds some of the highest breeding densities of waders in UK and Ireland at 3.52 pairs per hectare on some sites, though there is still much to be done. Reserve management in itself cannot save breeding waders but the reserve can act as a core site from which successful breeding can create a surplus to spread out and repopulate areas under similar management. In 2011 the Fermanagh Focus area was established which includes c1000ha/2471 acres of farmland within the LELP area where a Conservation Advisor works with local farmers and landowners to improve opportunities for breeding waders, species rich grassland and other wildlife. Breeding wader surveys are also undertaken within this area to monitor change and measure success.

The reserve supports approximately 68 breeding bird species annually and some islands are home to important populations of breeding gulls and terns, see above. There are also large populations of some duck species including c340 pairs of breeding Tufted duck *Aythya fuligula* as well as breeding Grey heron *Ardea cinerea*, geese and swans.

All RSPB Nature Reserves have a five year rolling Management Plan. This document sets out the rationale for management of the site. There is a detailed audit of all influences on the site as well as habitats and species. Habitats and species are then prioritised according to their conservation status at the time of first writing of the plan and subsequently updated at each five yearly review. Specific objectives are set out for the conservation and public engagement priorities and subsequent prescriptions and projects are written to describe how the objectives will be achieved. The

Management Plan is sent to NIEA for consent to undertake notifiable operations during the lifetime of the plan.

Each reserve produces an Annual Report of action taken for the priority habitats and species and includes outcomes against targets. This document is audited by RSPB Reserves Ecology Department and actions are identified either to address shortfalls or to support further success.

Although RSPB is known primarily for bird conservation, the reserves are managed for their highest conservation priorities, see above. The Lower Lough Erne Islands Reserve has identified the list of priority habitats and species on site and undertakes management to maintain and improve their status. The reserve includes significant areas of species rich grassland, a hay meadow, an island managed entirely for its lichen community, supports two priority moth species found only in Fermanagh, is home to several species of fungi found nowhere else in Ireland and has a beetle found only on the reserve and in Killarney, Co. Kerry.

### 6.7.6 Fish

Lough Erne is a large wild fishery and is a major attraction for visiting anglers who are more used to fishing in highly managed, stocked venues. Lower Lough Erne fish stock have been monitored for a number of species on a regular basis since 1992. Records for NI Priority fish species submitted to CEDaR between 2001 and 2016 are shown on Figure 6.12.

CEDaR hold data for 2 NI priority fish species records within the LELP area over the period 2001-2016. These are European eel (*Anguilla anguilla*) and brown trout (*Salmo trutta*).

The former Department of Culture, Arts and Leisure (DCAL)<sup>14</sup> has published a consultation paper setting out policy proposals for the management of the Lough Erne fishery. The aim of the Lough Erne Fishery Management Plan (FMP) is to provide a strategic approach to the sustainable management of what are considered by AFBI to be underutilised resources. The FMP set out how DAERA will seek to manage the fisheries and what will be required to inform this process. This is done by presenting an overview of the fishery with a series of proposals for sustainable management of the fisheries and habitats whilst

<sup>14</sup> The functions and services delivered by DCAL have been transferred to new departments including the Department of Agriculture, Environment and Rural Affairs (DAERA) and the Department for Infrastructure (DfI)

also maximising their value to the economy and the environment.

AFBI/DCAL have conducted Erne lake fish surveys since 1991. The fish community of Lough Erne is relatively simple and internationally renowned for trout, pike and coarse angling. It is currently dominated by the non-native species perch (*Perca fluviatilis*) and roach (*Rutilus rutilus*). Pike (*Esox lucius*), also probably non-native, are the major predatory fish species in Lough Erne, with larger specimens of perch and trout also exhibiting some piscivorous behaviour. Pike, perch and roach are keystone species in European lakes, as they have been shown to affect ecosystem function or population structure under certain conditions, e.g. by predation on other species (pike), grazing on phytoplankton (roach), and in changing the ratio between species associated with the impact of the zebra mussel (perch and roach) resulting in an apparent shift in expression of lake trophic condition (Brabrand et al., 1986b, Kurmayer and Wanzenböck, 1996).

The rare and protected pollan (*Coregonus autumnalis*), a whitefish, only occurs in 5 large lowland waterbodies: Lower Lough Erne, Lough Neagh, Lough Allen, Lough Derg and Lough Ree (Harrison et al., 2012, Harrod et al., 2002). It is thought that each population has been isolated from conspecific populations since the last glacial maxima (circa 10,000 years ago) and therefore gene flow between waterbodies is unlikely. The presence of pollan in Lough Erne affords the lake an elevated conservation status. The pollan stock in Lough Erne is small but early signs suggest it may be increasing (Rosell, 2014).

Rosell (2014) found that roach and perch now dominate the catches by number and biomass and found that there has been a marked decline in bream stocks over the past 20 years. This has come alongside an increase in the number of roach/bream hybrids. Factors bringing together the spawning seasons, fertilisation of bream eggs by the more abundant roach, along with infertility of most hybrids appear likely to be the key drivers of this decline. This causes difficulties for the local bream population, having to compete for spawning areas and food. Research has shown hybrid taxa with phenotypic traits intermediate between parental species may be able to exploit niches unavailable to the bream parents, and as such outcompete them. Bream may not only be under threat from competition from roach for food and spawning grounds but it may also be under threat by a prolific sympatric hybrid thereby leaving the viability of the population of the Bream very uncertain.

Rosell (2014) explains that there are significant problems in understanding trends in brown trout

numbers present. While numbers in nets tailored to sample large fish appear to be relatively stable, numbers of smaller trout encountered in recent surveys are low in the long term context. Given that large trout must have grown on from smaller fish, and that river stock surveys of juvenile fish potentially available to migrate to the Lough are also relatively stable, these two observations do not seem to tally. Behavioural or distributional change in the smaller trout fish reducing their catch-ability in margin nets in summer may be a possible explanation.

A limited open water survey in August 2013 revealed again that the stocks of fish over the deep water of the Broad Lough are very different from those of the margins. The survey found trout in a subsurface layer, mid-water pelagic young of the year perch and pollan at 20-30m deep on a dividing line between warm surface and deep cold water. Pollan numbers were the best recorded in samples since their very low stocks in early 1990s.

In addition to the lake surveys many of the catchment's rivers and streams are routinely monitored for stock status and international reporting (NASCO). The data are reported annually in arrears on the DAERA digest of fishery statistics<sup>15</sup>. For example, the Garvary River had not achieved its salmon recruitment index target in any of the eight years from 2007. This target is based on fry abundance surveys which count the number of fry in a 5-minute sampling session.

### Genetics and Stocking

There is a paucity of genetic data relating to fish from the Lough Erne catchment.

AFBI has completed a small study on genotyping salmon from the Garvary River. To be useful for fisheries management this study would have to be expanded to include all afferent and efferent rivers and streams.

Until now there has been a salmon and trout stocking programme in the Lough Erne catchment. Over a 25-year period it is estimated that approximately 17 million salmonids (Brown Trout & Salmon) have been stocked into the Lough Erne catchment system. In light of recent genetics studies conducted in the Lough Neagh catchment, the FMP recommends that future stocking programmes in the Lough Erne catchment should fully consider the information gleaned from Lough Neagh by Keenan and Prodohl (2015), and must have precise

<sup>15</sup> <https://www.daera-ni.gov.uk/sites/default/files/publications/dcal/Digest-of-Statistics-for-Salmon-and-Inland-Fisheries-in-the-DCAL-Jurisdiction-2016.pdf> Accessed 23/1/17



objectives to prevent biodiversity loss. The FMP states that until such study is undertaken resources should be prioritised to habitat restoration.

### Invasive Species

The prevalence and impact of aquatic invasive species are discussed in Section 6.7.9.

### Proposals from the Erne Fishery Management Plan

A number of proposals have been made within the Erne Fishery Management Plan<sup>16</sup> listed under the headings of Legislation Issues, Governance Issues, Development Issues, Protection Issues, Conservation Issues and Scientific Data. Threats and need identified within the FMP for which proposals are identified are:

- Need for more effective enforcement programme place to protect fish stocks and their habitat;
- Education needed for stakeholders to improve compliance with legislation;
- Improvement needed for fisheries habitat, remove any fish barriers or improve fish passage at any barriers in the tributaries of the Erne Catchment; and
- Review of stocking policy needed to ascertain impacts.

Long term datasets needed to identify trends in fish populations through regular scientific monitoring of stocks on Lough Erne and its tributaries.

An over-arching threat for aquatic biodiversity, including fish populations, within the Lough Erne basin is water quality. Water quality within the Lough Erne basin is impacted for the most part by diffuse and point source discharges from land. Intensification of farming and inadequate sewerage treatment have been identified as likely to be the most significant sources of adverse impacts.

### 6.7.7 Herpetofauna

There are three herpetofaunal species in NI, the common lizard (*Zootoca vivipara*), common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*). All species are found within the LELP area and all are likely to be widespread and common. Lizard is a NI priority species whilst smooth newt is protected under the Wildlife Order.

Threats for these species include increased drainage of agricultural lands likely to impact on local populations of frog and smooth newt, with conversion of scrub, dry

grassland and bog/heath habitats likely to impact on populations of lizard.

### 6.7.8 Invertebrates

The CEDaR database holds records for 18 NI Priority invertebrate species, submitted over the period 2001-2016. Records for NI Priority invertebrate species, including molluscs, crustaceans, butterflies, moths and beetles, submitted to CEDaR between 2001 and 2016 are shown on Figure 6.12.

As yet, Northern Ireland's invertebrate fauna is poorly known, as demonstrated by the discovery in 1981 of a damselfly, now named the Irish Damselfly (*Coenagrion lunulatum*) (Nelson and Thompson, 2004). There are a number of species that are rare or protected and have or are likely to have restricted distribution to the LELP area. Selected species are highlighted below as examples of invertebrates which have a distribution around the LELP and which are in need of action to help in their conservation.

#### Small amber snail (*Succinella oblonga*)

This small amber snail (*Succinella oblonga*) was widespread and common in north-west Europe following the last glaciation but started to decline around 4,000 years ago. Forestation and coverage of the ground by vegetation has reduced suitable habitat as it prefers open, sun-warmed, damp places where it can feed on algae and plant detritus, for example, stony flushes or unvegetated muddy or sandy places such as quarries and lake shores. Its distribution in Britain is very restricted and it is entirely absent from large areas. The amber snails make up a group of five species in Ireland of which two are common and three localised and rare. Of these three only *Succinella oblonga* has been recorded in Northern Ireland. Around Lower Lough Erne, stony margins or the expanse of fine, sandy deposits left by lowered water levels often provides suitable habitat. It can be found throughout the year. The main risk is from enrichment and scrub or dense herb growth at current sites.

#### White Clawed Crayfish (*Austropotamobius pallipes*)

The white-clawed crayfish (*Austropotamobius pallipes*) is a priority species, the only native species of freshwater crayfish in Britain and the largest freshwater crustacean. White-clawed crayfish occur in Ireland, where populations are strongly associated with the areas that have underlying calcareous rock. Although locally abundant in some areas of the UK, the white-clawed crayfish has declined dramatically in recent years. It is under threat throughout its range in the UK and in other areas of Europe. The principal

<sup>16</sup> See pages 23-41 of <https://www.daera-ni.gov.uk/sites/default/files/consultations/dcal/lough-erne-fishery-management-plan-2015.pdf>



causes of decline are competition from non-native crayfish and a lethal disease (crayfish plague) carried by introduced species. Habitat deterioration and loss can also have significant impacts on remaining populations. Maintenance and enhancement of habitat forms an important part of the conservation strategy for white-clawed crayfish. White clawed crayfish are common in feeder streams running into Lower Lough Erne, in lakes on the Lough Navar highlands, in streams on the eastern side of Upper Lough Erne and in the marl lakes on the County Fermanagh border with Monaghan near Rosslea. Distribution is restricted to waters with high levels of calcium, needed by the animal to build its limy carapace.

### Marsh fritillary (*Euphydryas aurinia*)

The marsh fritillary is Northern Ireland's only European protected butterfly species. Once widespread across Europe, it has suffered severe declines throughout the last century. It used to be found in all six counties, but only two main landscapes for the butterfly now remain. These consist of a network of isolated fen and sand dune sites in County Down, and a much more connected landscape of species-rich grassland in counties Fermanagh and Tyrone.

The marsh fritillary is a very mobile species by nature, and in addition to single sites it requires a well-connected landscape of suitably managed habitat if it is to thrive. Marsh fritillaries move through the landscape, regularly utilising "core" breeding sites, but also opportunistically colonising suitable "satellite" habitat between these sites.

These transitory satellite sites may only be occupied for one or two years in ten, but they provide vital stepping stones through that landscape, ensuring better connectivity and genetic resilience within marsh fritillary populations. Without this connectivity, the marsh fritillary will eventually become extinct, something that is happening to more isolated colonies in County Down.

In Fermanagh in general, marsh fritillaries are found at a number of designated sites, as well as in unimproved areas of the wider landscape. Threats to marsh fritillary habitats include both abandonment and intensification of agricultural land. These types of impacts are likely to occur on agricultural land throughout the LELP area.

### Butterflies and Moths

Northern Ireland is home to around 1000 species of moth and 25 species of butterfly, with almost half of these being priority species (Thompson and Nelson, 2006; www.habitas.org.uk).

A landscape-scale approach to butterfly and moth conservation is promoted by BCNI as it is recognised as a way of improving and connecting land for wildlife by the coordinated conservation management of numerous sites for a range of species across a large natural area. The report, Landscape-scale conservation for butterflies and moths: lessons from the UK (Ellis et al., 2012), shows that measures to conserve rare butterflies and moths have helped other threatened species as well as the habitats in which they live.

Two moth species found exclusively within the LELP area within Ireland are the dark umber (*Philereme transversata*) and brown scallop (*Philereme vetulata*). These moth species are only known from Crom NT Estate and RSPB Lower Lough Island RSPB Reserve. These species are found in alder buckthorn shrub around wet woodland and a limited grazing regime can be important in maintained suitable habitat.



**Dingy skipper** *Erynnis tages*  
(Source: Jim Asher)

The dingy skipper is a small, extremely well camouflaged, brown and grey butterfly that resembles a moth. Extremely rare in Northern Ireland, this butterfly is only found in County Fermanagh. Most active in sunshine, it skips low over the vegetation, stopping occasionally on bare ground to bask in the sunshine.



### A Ground Beetle (*Carabus clatratus*)

*Carabus clatratus* is one of the rarer species belonging to a genus of ground beetle (Carabidae) which contains many of the largest and most attractive of Irish and European beetles. It is in decline all over western Europe as its preferred habitat, natural bogs, swamps and mires, are increasingly being drained for agriculture or mined for horticultural peat. Formerly widespread in Northern Ireland, but now almost confined to lakeshores in Upper Lough Erne and on peatlands south of Lower Lough Erne. This species is scarce and in decline, with Northern Ireland being both the UK and Irish strongholds. Its disappearance is related to the drainage and destruction of wetlands and particularly peat bogs, e.g. through turf extraction.

### A cuckoo bumblebee (*Bombus (P.) campestris*)

Although the most recent record for this species is from 1987 it is included here as an example of the species that have been lost or that could be re-found through more survey effort by either citizen science projects or specific recording projects. This species is a cuckoo bumblebee which takes over a nest of another bumblebee. There are subtle differences between cuckoo bumblebees and the true bumblebees and recognizing them in the field is possible with experience. Bumblebees are amongst the most familiar of Irish insects and a welcome visitor to our gardens and parks. Their hairy body, often colourful appearance and their busy and unthreatening behaviour make them appealing to the general public. Only a few species are generally distributed, the less common species like this are only found in the wider countryside. The best time to see them is in late summer when the males and new generation of queens are on the wing.

The host species *B. pascuorum* occurs throughout Northern Ireland. The threats and causes of the decline of this bee will be linked to those of its host species. Declines in its population will inevitably affect this species which cannot survive without it. *Bombus pascuorum* is apparently still a common and widespread species, so the decline in this species may be an early warning of a decline in the host.

### 6.7.9 Non-native Invasive Species and Diseases

Non-native invasive plant and animal species, and introduced diseases, are one of the greatest threats to biodiversity worldwide. They can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy.

In any future vision for the LELP area the potential future of non-native invasive species within the area should be assessed. This particular issue has been highlighted by a number of partners as the most relevant issue that warrants a multi-organisational, landscape management approach. Invasive Species Ireland is a joint venture between NIEA and National Parks and Wildlife Service (NPWS) (in the Republic of Ireland) and provides a website where one can find information on a range of species, policy related to individual species or groups of species, and action plans to deal with species that threaten the biodiversity and economies of Ireland<sup>17</sup>.

The major pathways for terrestrial and aquatic non-native invasive plant species is through transport and recreational networks throughout the LELP area. For example: Himalayan balsam is transported along river corridors through wind and water borne seed dispersal; Japanese Knotweed is transported similarly along river corridors but also along roads and recreational routes; and Nuttall's waterweed is transported mostly through watercraft along navigable routes.

Terrestrial non-native invasive animal species are more easily spread, having the ability to move through the landscape themselves. In any attempt to create wildlife corridors or stepping stones between areas of high quality habitat account should be taken of how these invasive animals could potentially use these habitat improvements to expand their range.

Diseases which affect native species such as ash die-back and crayfish plague can also be spread through a variety of means. Ash die back is spread at a landscape scale most likely through the movement of diseased ash plants and a local scale through wind borne distribution of the fungal spores whilst crayfish plague is spread through the expansion of range by non-native crayfish through natural and human-induced means.

The wide variety of methods of spread for individual non-native invasive species means that as well as the development of plans to control or eradicate each species, the potential for spread of each species should

<sup>17</sup> <http://invasivespeciesireland.com/>

be taken into account when proposing other actions for the LELP area.

The non-native invasive species considered to have most relevance within the LELP area are considered to be:

#### **Japanese knotweed (*Fallopia japonica*)**

Japanese Knotweed is also a widespread species most often spread vegetatively and through an extensive underground rhizome system. As it is a controlled waste, it must be disposed of through an appropriately licenced operator which can have significant economic impacts. Treatment of this species in situ can take a number of years of intensive management. As with *H. balsam*, this species requires a joint management approach to stopping its spread or eradicating its presence in any particular location. As with all invasive species, education of those with the most potential to cause the spread of this species is of primary importance.

#### **Himalayan balsam (*Impatiens glandulifera*)**

Himalayan Balsam is a widespread annual, invasive plant species which spreads by seed and is commonly found covering large areas on the banks of rivers and streams. This species causes problems by completely shading out native vegetation and then contributing to sedimentation when the plant dies back in the winter and the river banks erode without permanent roots to stabilise. Eradicating this species on a site by site basis is more often than not a fruitless exercise as plants can easily return to a site from a donor location upstream. As with most other non-native invasive species the emphasis for control of this species needs to be placed on the need for a joint management approach for a whole river basin.

#### **Nuttall's waterweed (*Elodea nuttallii*)**

Nuttall's waterweed is an invasive alien species of aquatic plant (macrophyte) that originates from North America. Zebra mussels (*Dreissena polymorpha*) and Nutrient enrichment are seen as two factors which have contributed to exacerbating the growth of this species in Lough Erne. This species grows faster and outcompetes most native species and so can impact negatively on aquatic biodiversity. Although they are sold for their 'oxygenating' quality, they can cause big fluctuations in the amount of oxygen available in the water and this can be harmful to invertebrates and fish.

As with any invasive aquatic plants they can spread by small fragments via vegetative means. Within a water body this can be through fragments breaking off naturally and washing into a new area. Between

unconnected water bodies aquatic plants can be spread by a variety of pathways (vectors) including fragments attached to boat trailers / water craft, fragments on angling equipment or fragments that have been disposed of from nearby ponds / aquariums.

Aside from its implications for water clarity and potential impacts on the lake ecosystem, Nuttall's waterweed also has economic implications. It can cause an obstruction in the navigable waterways hindering boats passage with subsequent substantial costs for its removal.

The potential for new non-native aquatic invasives such as curly waterweed (*Lagarosiphon major*) and floating pennywort (*Hydrocotyle ranunculoides*) means that cumulative impacts with Nuttall's waterweed could have even more far reaching consequences.

#### **Signal crayfish and Crayfish Plague (*Aphanomyces astaci*)**

Signal crayfish (*Pacifastacus leniusculus*) carry the deadly crayfish plague which kills native white-clawed crayfish (*Austropotamobius pallipes*). White-clawed crayfish is a native species which is widely distributed throughout lakes and rivers in the Fermanagh area as it needs calcium rich water that is clear and oxygen rich in order to build its limy shell. The main threats to this species are non-native crayfish introductions, crayfish plague and water pollution.

The fungus-like crayfish plague causes the lethal crayfish plague is related to potato blight and grape disease and has been found on the Bruskey/Erne River at Killydoon, near Ballinagh, Co. Cavan. Each American crayfish species carries a different strain of the plague. The 'Pacifastacus' strain appears completely lethal and eradicates all native crayfish. It is not even necessary for the American crayfish to be present – the plague fungus produces spores which can be transferred on wet nets and boots, on boats, and even on fish for restocking.

This species is also mentioned as one of the 'Local Species for Action' in the Local Biodiversity Action Plan.

#### **Zebra mussel (*Dreissena polymorpha*)**

The zebra mussel is a freshwater bivalve which attaches itself to hard substrates. It is native to the Ponto-Caspian region and has spread throughout much of central and northern Europe through canal networks over the past two centuries. Zebra mussels are considered a significant threat to aquatic environments and can cause dramatic changes to an ecosystem through both direct and indirect actions. Abiotic impacts

of zebra mussel invasion include the fouling of aquatic structures and enhanced water clarity due to the filtering of the water column by the mussels. Biotic impacts can include the suppression of zooplankton populations due to competition. The improved water clarity caused by zebra mussel may also cause an increase in macrophyte growth due to increased light transmission through the water column. The first reports of this species in the Erne system were of mussels attached to boats in 1996/97 (Rosell *et al.*, 1999). A PhD carried out on zebra mussel in Lough Erne (Maguire, 2002) and a number of papers have since been published on this species in the Lough Erne system. Maguire and Gibson (2005) concluded that it appears that the establishment of zebra mussels has resulted in a decline in lake total phosphorus concentration. For other nutrients such as nitrogen and ammonium, there is little evidence of striking change in the context of the large decrease in chlorophyll.

#### Grey Squirrel (*Sciurus carolinensis*)

Grey squirrel is an invasive alien species which is widely known about and was introduced to Ireland 100 years ago. This species is considered the biggest threat to our native red squirrel population. When the grey squirrel arrives in a red squirrel area, the red squirrel population usually disappears within 15 years. The grey squirrel outcompetes the red for food, space and carries a disease, called the squirrel pox virus. This disease kills the red squirrel but has no known lasting effect on the greys. In circumstances where the presence of squirrel pox is confirmed, the extinction rate of red squirrels can be 20 to 25 times faster than that in pox free areas. Although once widespread the grey squirrel population in the LELP area has declined in recent years. There are existing red squirrel populations and recent research indicates that the NI red squirrel population may be expanding its range in correlation with a contraction of the grey squirrel population.

#### Ash Dieback (*Hymenoscyphus fraxineus*)

Ash dieback is a serious disease of ash trees caused by the fungus *Hymenoscyphus fraxineus*. The disease causes leaf loss and crown dieback in affected trees and can lead to the death of the tree. Results from the 2016 Chalara Ash Dieback Survey indicate further spread of the disease to native ash in the wider countryside. The Ash Dieback map on the DAERA web-site shows wider environment infection in 14 no. 10km IGR squares with a clustering of seven of these squares around Upper Lough Erne and one square at the northeast of Lower Lough Erne<sup>18</sup> (See Figure 9.2).

In addition to the material presented on the web site DAERA Forest Service are preparing comprehensive advice to alert and assist stakeholders to the current extent of the disease, so that woodland owners in particular can consider what steps are likely to be most appropriate and affordable for their own plantations. In addition, advice is being prepared on the management of individual trees in the landscape and hedgerows which will be placed on the web page when finalised. <https://www.daera-ni.gov.uk/articles/ash-dieback>.

In addition, as this is a shared policy area, Forest Service Plant Health has briefed other DAERA policy leads and are scoping areas of joint policy interest to develop appropriate advice and interventions. This includes the NIEA policy lead and issues being progressed include assessing the environmental and landscape impact of Chalara on the NI countryside. AFBI are supporting much of this policy developmental work with scientific and economic research specific to NI.

The designated ashwoods, individual ash trees and those hedgerows with significant numbers of ash trees in the infected areas are under immediate threat of infection in areas where this has not happened already.

The repercussions for and impacts on the landscape, for example, the hedgerows within the geographic boundary, could be fairly immediately apparent and it seems may be potentially extensive over next 5 years.

#### Asian clam (*Corbicula fluminea*)

Asian clam has also been recorded within the greater catchment and it too poses a serious threat to the overall ecology of Lough Erne. Like the zebra mussel, Asian clam has the ability to become highly invasive in a short period of time and at high densities it can alter the food web and compete with native mussel species.

They are known to aggressively out compete native invertebrate communities, limit phytoplankton biomass, biofoul water intakes, alter benthic habitats, add biologically available nitrogen and phosphorus to systems, and impact aesthetic and recreational values of public beaches, lake front properties and swimming areas.

<sup>18</sup> <http://invasivespeciesireland.com/>



## 7. Lough Erne Land Use in the Landscape

### 7.1 Recreation and Tourism

This section of the report provides a summary of the key recreational activities present within the Lough Erne Landscape. Table 7 provides an overview of the recreational activities which occur in the LELP area. An overview of recreational and tourism facilities and locations along recreation and activity hubs and tourism zones are shown in Figures 7.1, 7.2 and 7.3. These community and activity hubs are considered to be honey pot sites i.e. sites where recreational users and tourists are attracted to in large numbers. The key access routes are those walking, cycling, road and waterway routes either between these sites or looped at these sites.

**Table 7** | Recreational Activities in Lough Erne Landscape

Land	Water	Air
Archery	Angling	Aero-modelling
Bush Craft	Boat cruising	Hang Gliding/Paragliding
Caving	Canoeing (including Kayaking and Slalom)	Micro-light Flying
Clay Pigeon Shooting	Jet – Skiing	Kite photography
Climbing	Rowing	Drones
Cycling (On- and Off-Road)	Sailing	
Fell Running	Stand Up Paddle boarding (SUP)	
Horse riding	Water-skiing/Wakeboarding	
Mountain biking	Swimming	
Orienteering	Paddling	
Paintballing	Small day boat hire	
Walking		
Archery		
Natural history		
Hill walking		
Camping		
Cooking		

#### Angling

Lough Erne provides one of Ireland’s most diverse inland fishing waters. Lough Erne is a large limestone lake and a prime game fishery for Brown Trout with the occasional salmon and some sea trout.

Rosell (2014) identifies that the area is an important recreational tourist and commercial fisheries which relies on a mixed fish resource. Recreational fishing concentrates particularly on brown trout, roach, perch, bream and pike, with eels being fished almost exclusively on a commercial basis. Within the recreational sector, there is almost complete separation between “coarse” and “game” anglers. Competition coarse fishing is an important draw for tourists. Pike and perch are the favoured quarry of many visitors from the European continent, particularly from Germany, Austria and Switzerland. Many of the continental visitors also use and support the local cruiser and day boat hire businesses. Local game anglers concentrate on angling for brown trout, which can grow to particularly large sizes.

Lower Lough Erne is dotted with numerous islands, rocky outcrops and reaches depths of over 200 feet in places which makes it ideal habitat for Pike, Perch and Brown Trout whilst Upper Lough Erne is a maze of channels and islands with vast reed beds and ideal habitats for Pike and Perch.

### Walking

Walking is one of the most popular and well-developed forms of outdoor recreation activities in Co. Fermanagh. It is enjoyed by a diverse range of participants from those taking short strolls with the family to avid hill walkers.

[WalkNI.com](http://WalkNI.com) promotes the formal trails in Co. Fermanagh including 23 short walks (up to 5 miles), 5 medium walks (5 to 20 miles) and 4 long distance walks which are sections of the Ulster Way.

### Marble Arch Geopark

The Marble Arch Caves UNESCO Global Geopark spans an area of over 2,333km sq. that covers large scenic areas of County Fermanagh and County Cavan. It contains landscapes from rugged mountains, limestone grasslands, wetlands to forests and lakes. Many of these areas have international or national conservation designations that limit development.

There are a number of established key recreational sites within the Geopark in Fermanagh such as Lough Navar Forest. There are also a range of walks and cycle trails in various other Geopark sites like Castle Archdale, Castle Caldwell, Belmore Forest, Ely Lodge Forest, etc. Visitor numbers to Geopark sites are currently in the order of 300,000+ per year.

### Road Cycling

There are a number of National Cycling Network Routes throughout the Lough Erne Landscape including Route 91 Belfast to Ballyshannon, Route 92 Enniskillen to Derry / Londonderry and the Kingfisher Trail.

### Off Road Cycling

There are limited number of sites each providing short sections of formal off-road cycling at Castle Archdale Country Park / Forest, Crom Estate, Castlecaldwell, Belmore Estate and Ely Lodge Forest. Lough Navar Forest is an informal off-road cycling site. There is a lack of 'All ability' off road cycling trails.

### Mountain Biking

There are no formal mountain biking sites in the Lough Erne Landscape or within Fermanagh. Informal mountain biking has been identified at Castle Archdale Forest and Lough Navar Forest. There is also a very well developed mountain bike centre at Blessingbourne Estate near Fivemiletown which facilitates mountain biking in the LELP area.

### Boat Cruising

Lough Erne has a strong boat cruising tradition, although the main foundation of users reside outside Co. Fermanagh. Waterways Ireland's boat registration scheme has highlighted that although 6082 boats are registered for Lough Erne, only 1735 (c.29%) of these are registered to a Co. Fermanagh address. However it should be noted that that only boats with an engine above 10hp need to be registered and many individuals have engines below this to avoid need to register their boats. Waterways Ireland facilitate boats by strategically placed jetties, slipways and moorings. Private marinas throughout the LELP area also provide boat cruising facilities.

Western shores of both Upper and Lower Lough Erne with Gealum Quay and Magho Jetty are opportunities for development in terms of connection with Lough Navar Forest and access points to Lough Erne. A list of locations which could be suitable for potential access points to Lough Erne are shown on Figures 8.1, 8.2, 8.3 and 8.4 and described in the associated table in Appendix A.

### Canoeing

The Lough Erne Canoe Trail was launched in 2005, primarily utilising the aforementioned boat cruising infrastructure. This trail is one of the most popular of the nine available canoe trails in Northern Ireland. In terms of future development, there are opportunities for more campsites along the trail. Erne Paddlers Canoe Club was established in 2010 in order to provide the people of Fermanagh the opportunity to develop paddling for all ages.

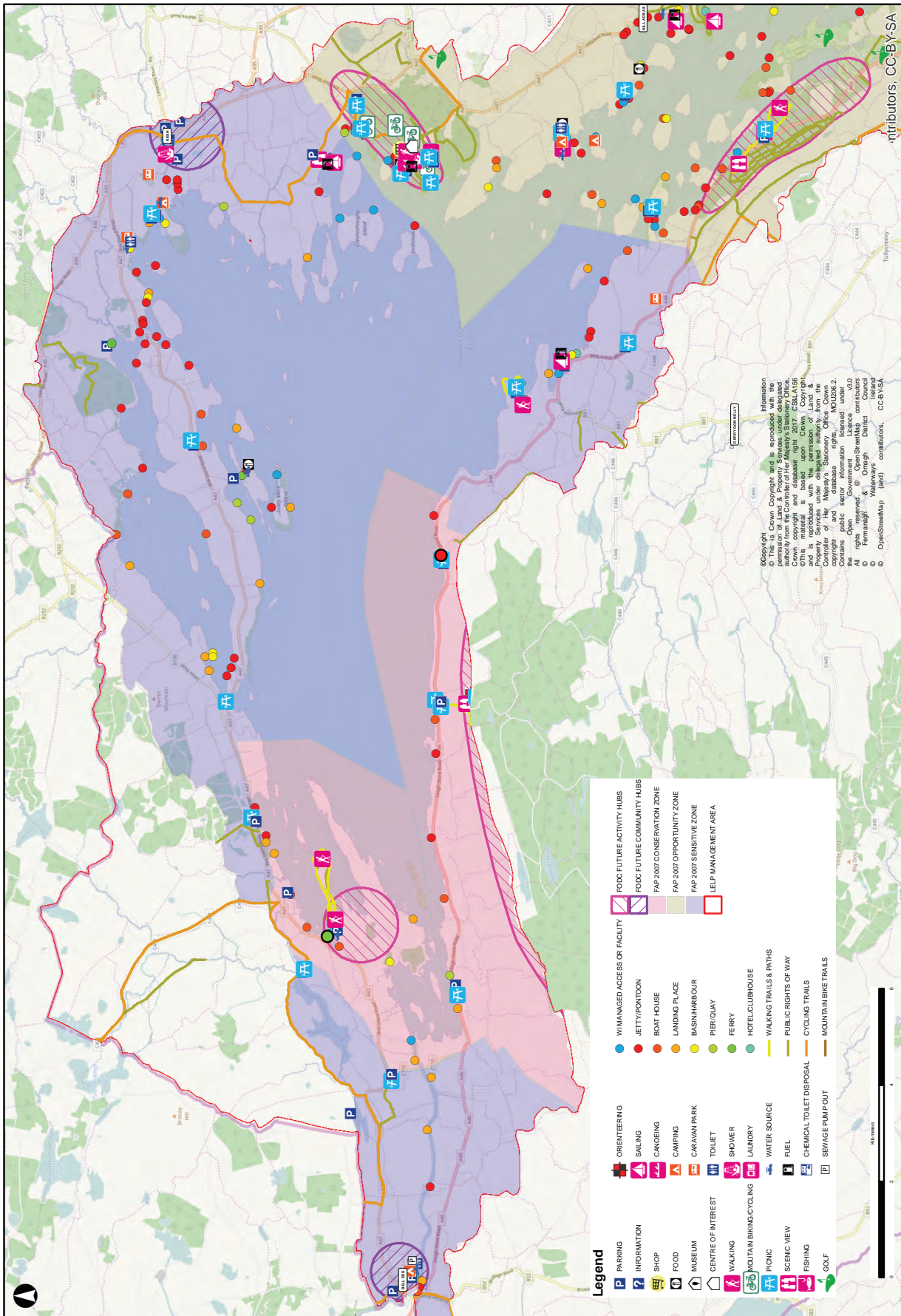


Figure 7.1 | Recreation and Tourism North



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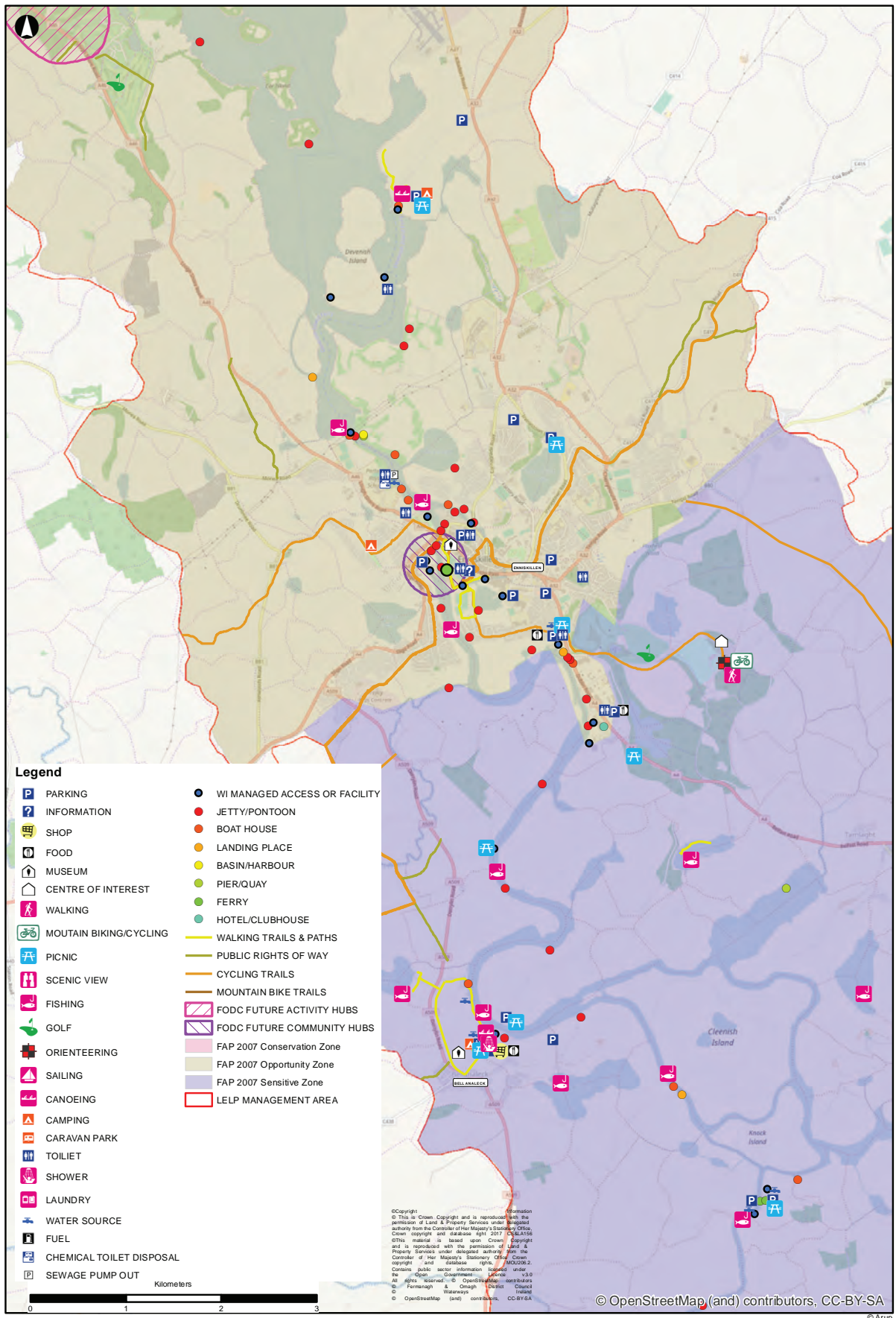


Figure 7.2 | Recreation and Tourism Enniskillen

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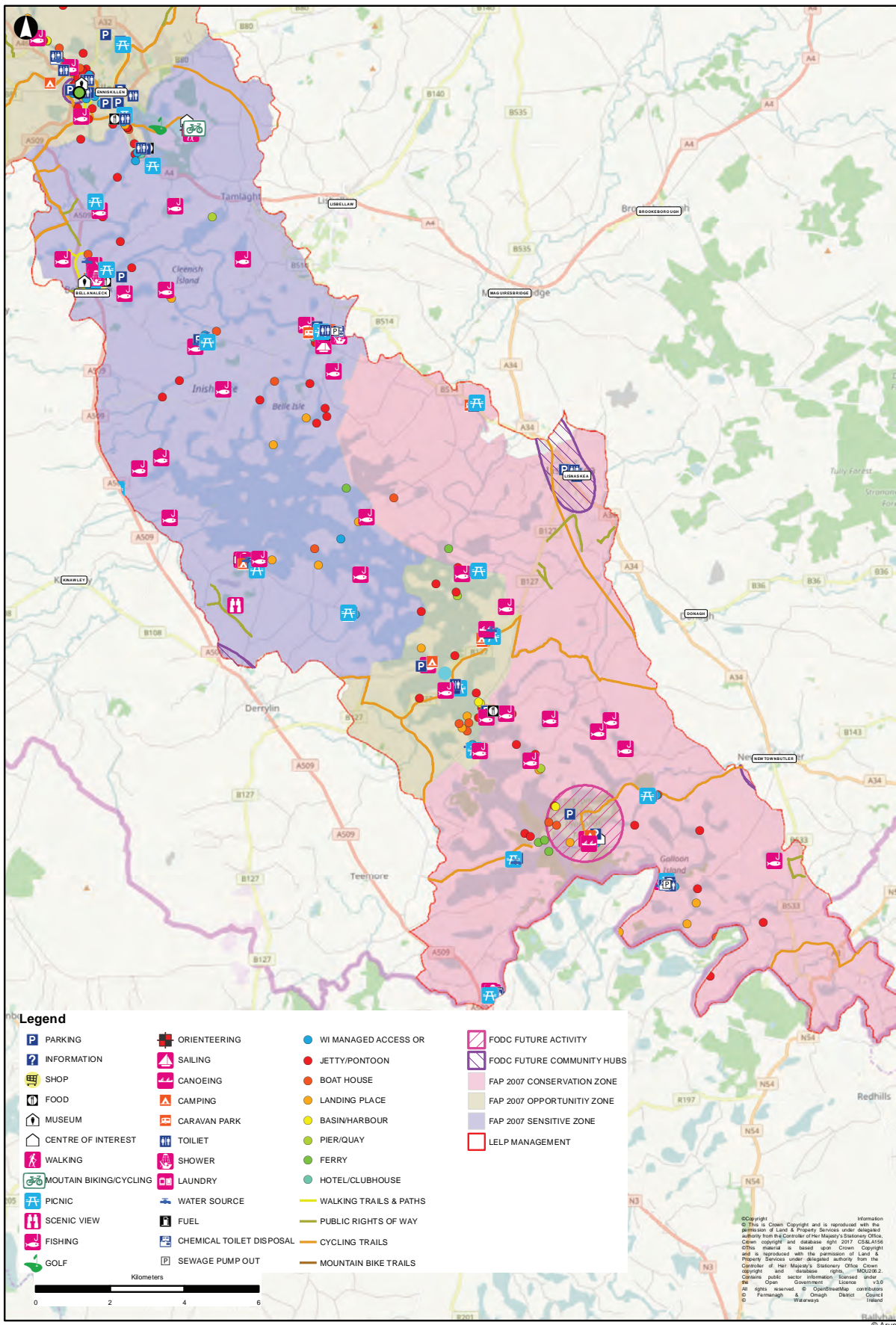


Figure 7.3 | Recreation and Tourism South



Waterways Ireland proposed Blueway locations are shown on the Figures 8.1, 8.2, 8.3 and 8.4 and described in the associated tables in Appendix A with further details in Appendix E.

### Jet – skiing

Jet-skiing also relies on the boat cruising infrastructure and this recreational activity is widely participated in throughout Lough Erne with a particular co-occurrence with caravan parks.

### Rowing

Recreational rowing is also offered by the ‘Row the Erne’ Group, a community based project that has constructed a traditional Curragh and provides rowing opportunities in different locations around Lough Erne. There is a strong tradition of rowing in Lough Erne in and around Enniskillen and many opportunities for this recreational activity. Day hire row boats are available at Crom.

### Sailing

The primary area for sailing is Lower Lough Erne with the key concentration around the Lough Erne Yacht Club at Killadeas. The club hosts weekly races and also regional and national events. The club is mainly utilised by private members although it also has sailing school and offers an annual try sailing day.

### Stand Up Paddleboarding (SUP)

Stand Up Paddleboarding is a fast growing activity where participants stand on a board similar to a windsurfing board which is propelled by a long shafted paddle. It is enjoyed by small numbers on Lough Erne using resources on the Lough Erne Canoe Trail.

### Waterskiing / Wakeboarding

The boat cruising infrastructure provides jetties and slipways whilst Lough Erne itself provides sections of uninterrupted water which are ideal for waterskiing and wakeboarding. Key locations for these activities include Culky- Killyhevlín Section, North of Boa Island (unmarked bay), Kesh and Muckcross area. Also, as communicated by Waterways Ireland Wardens (Water Patrollers) all slipway locations are used regularly by jet skiers, water skiers and boating in general.

### Aero-modelling

There is a small aero-modelling club that operates from St Angelo airport which host an annual ‘Splash In’ event near Killadeas.

### Archery

Archery is primarily delivered either by organised clubs who are affiliated with the Northern Ireland Archery Society (NIAS) or private activity providers, both site-based and mobile.

### Caving

Fermanagh has a unique caving infrastructure providing over 80 kms of cave systems, situated in two main areas bisected by Lough MacNea Valley. The Cuilcagh area south of the valley is best known for its river cave systems. The area to the north of the valley entails the uplands of Ballintempo and Tullybrack above Derrygonnelly and Boho is best noted for its deep potholes leading into horizontal cave systems.

### Clay Pigeon Shooting

Lough Erne Clay Pigeon Club are located near Killadeas in agreement with a private landowner.

### Climbing

Climbing is primarily offered by activity operators and clubs using artificial climbing and crags access with permission of private landowners.

Bouldering (a form of rock climbing which takes place on boulders and other small rock formations, primarily close to ground level) is becoming increasingly popular at sites such as the boulder fields at Lough Navar Forest.

### Fell Running

Fell running, also known as mountain running, is governed by the Northern Ireland Mountain Runners’ Association. Although there is no formal provision for fell running in Lough Erne there are informal fell running events.

### Hang Gliding/Paragliding

There are two sites located close to Lough Erne used on an informal basis by a small group of paragliders including Benaughlin and Lough Navar Forest. Belmore Forest to the south of Lough Erne is also popular for paragliders. **Horse riding**

Forest Service Northern Ireland provide a number of sites within the study area which can be accessed through the purchase of a horse riding permit.

### Micro-light Flying

A Micro-light is a small aeroplane, capable of flying at low speed. A very small group of participants utilise St Angelo Airport.



### **Orienteering**

Orienteering is relatively well developed due to the actions of the proactive local club Fermanagh Orienteers with support from Northern Ireland Orienteering. There are numerous sites with Permanent Orienteering Courses (mapped with wooden posts and punches in position) and others are mapped allowing bespoke courses to be set.

### **Speleology**

The study of caves is particularly well-developed in the area with much interest around the Marble Arch Geo Park.

### **Paintballing / Combat Games**

Paintballing and Combat games such as laser tag or airsoft are typically site-based and provided via a private activity provider.

### **Triathlon**

The FEARmanagh provides an annual for triathlon event. The entire area of Upper and Lower lough has significant potential for additional triathlon events.

## **7.2 Recreation and Tourism Zones and Hubs - Honey Pot Sites and Key Access Route**

Existing and potential recreation and tourism honey pot sites within the LELP area have been identified and are outlined below.

### **7.2.1 Fermanagh Area Plan 2007 Tourism Zones**

The Fermanagh Area Plan 2007 contains a number of policies relating to tourism. An emphasis is placed in that plan on protecting Lough Erne and its immediate hinterland. A key policy is T7 which is detailed and site specific relating to a Tourism Strategy for Lough Erne. The Plan also identified 13 zones around Lough Erne and its immediate hinterland for which strategic guidance has been provided on the potential for tourism and recreational development. The landscape character and capacity of each zone was assessed by FODC, together with the nature conservation interest, the man-made heritage, existing facilities, potential pressure and opportunities and categorized into either Conservation Zones, Sensitive Zones or Opportunity Zones<sup>19</sup>.

In addition, Lough Erne's shoreline was designated as a Countryside Policy Area (CPA) to protect it from over-development in light of its importance for landscape and nature conservation. Under PPS 21 the CPA was changed in name to Special Countryside Area (SCA). The level of protection within the Fermanagh Area Plan 2007 for each zone is detailed below, however it should be noted that the FODC LDP is currently in preparation and these zones and could potentially change. Currently however, development is assessed at a local scale under the Fermanagh Area Plan 2007 by FODC.

### **Conservation Zones**

In these zones, the quality and character of the landscape is considered so special and/or the conservation interests are of such significance, that little or no development for tourism or recreation will be permitted within the majority of their extent. The need for maximum protection of the environment means that only a very small scale development is likely to be acceptable and will depend on local landscape, wildlife and heritage interests.

<sup>19</sup> See Tourism Appendices at <http://www.fermanaghomagh.com/residential-services/planning-and-building/planning/local-development-plan/>

### Sensitive Zones

In these zones the sensitivity of the landscape, the conservation interest or the existing level of development are such that whilst there may be scope for development, proposals must be sensitive to the particular characteristics of the zone. Sympathetic development, which by its nature and scale would not be damaging to nature conservation interests or the man-made heritage and which is sensitive to the landscape, could be acceptable at some locations. The cumulative impact of proposals will be of particular consideration.

### Opportunity Zones

These zones are considered to offer opportunities for the development of a range of tourism and recreation schemes and appropriate proposals may be permitted on grounds of their overall contribution to the social and economic well-being of the region. In some cases, this may involve the expansion of existing tourism developments. Landscape sensitivity and the impact upon the manmade heritage and nature conservation interests will be of paramount importance in determining the suitability of development at particular sites as will the cumulative impact of proposals. In some areas it is likely that no development or only development on a very small scale would be considered acceptable.

#### 7.2.2 Access to The Countryside Audit Community Hubs and Activity Hubs

A report prepared by Outdoor Recreation NI on behalf of FODC, the 'Access to The Countryside Audit' (2016) has been undertaken as an access to the countryside audit for the Council area, which was aimed to help inform the key projects under the FODC Corporate Plan 2015 -2019. 'Activity Hubs' and 'Community Hubs' were identified in the report as areas where recreation could be focused and where possible it should be sustainable to focus investment and development on activities and visitor services occurring within these hubs.

The term 'Activity Hub' within the report referred to the clustering of activities and supporting visitor services within a confined area providing the local/ visitor ample opportunities to spend a single or multi-

day trip. 'Activity Hubs' were proposed to typically have a multitude of outdoor recreation activities with good connectivity between all resources, e.g. a path may be multi use or canoe steps may also provide access for anglers. It was identified that the 'Activity Hub' sites should have appropriately developed visitor facilities e.g. toilets and catering.

The primary focus for 'Community Hubs' was proposed to be non-car dependent community walking, cycling or multi-use trails. The report recommends that these 'Community Hubs' are provided as important within rural communities in order to allow them connect to green space with a recommendation for consideration to be made for 'All Ability' Trails where topography allows.

#### 7.2.3 Waterways Ireland Identified Potential Future Recreation Sites

Waterways Ireland manages, maintains, develops and promotes over 1000km inland navigable waterways principally for recreational purposes. There are a number of waterways under the remit of the body including the Erne System.

Potential future recreational areas including WI Lough Erne Blueway locations as identified by WI are shown on Figures 8.1, 8.2, 8.3 and 8.4.

In addition, Appendix E lists the opportunities identified from a number of sources including consultation with WI staff and comments outlined in the 2011 Report "The Erne Recreational, Tourism, and Commercial Product Identification Study" which was prepared for Waterways Ireland in conjunction with Fermanagh District Council, Fermanagh Lakeland Tourism and Northern Ireland Tourist Board.

## 7.3 Land Management

The Lough Erne landscape is currently managed by a wide variety of landowners and managers. Much of the terrestrial area is managed for agriculture, with forestry, built areas and bog being some of the other main land use types for the area.

Management of areas using an ecosystems services approach is underway through programmes such as Futurescapes (RSPB) and Living Landscapes (UW). Figure 7.4 shows an overview of land management within the LELP area.

Landowners and land managers within the LELP area include:

- Private landowners / Farmers;
- Forest Service Northern Ireland;
- National Trust;
- Forest Service, DAERA;
- Fermanagh and Omagh District Council;
- Several pockets along the long shore;
- Ulster Wildlife;
- RSPB;
- Lough Erne Wildfowler's Council;
- Waterways Ireland; and
- Northern Ireland Water.

A discussion of the opportunities and risks associated with land management in the LELP area is provided in Section 8 and is accompanied by detailed mapping in Figures 8.1, 8.2, 8.3 and 8.4.



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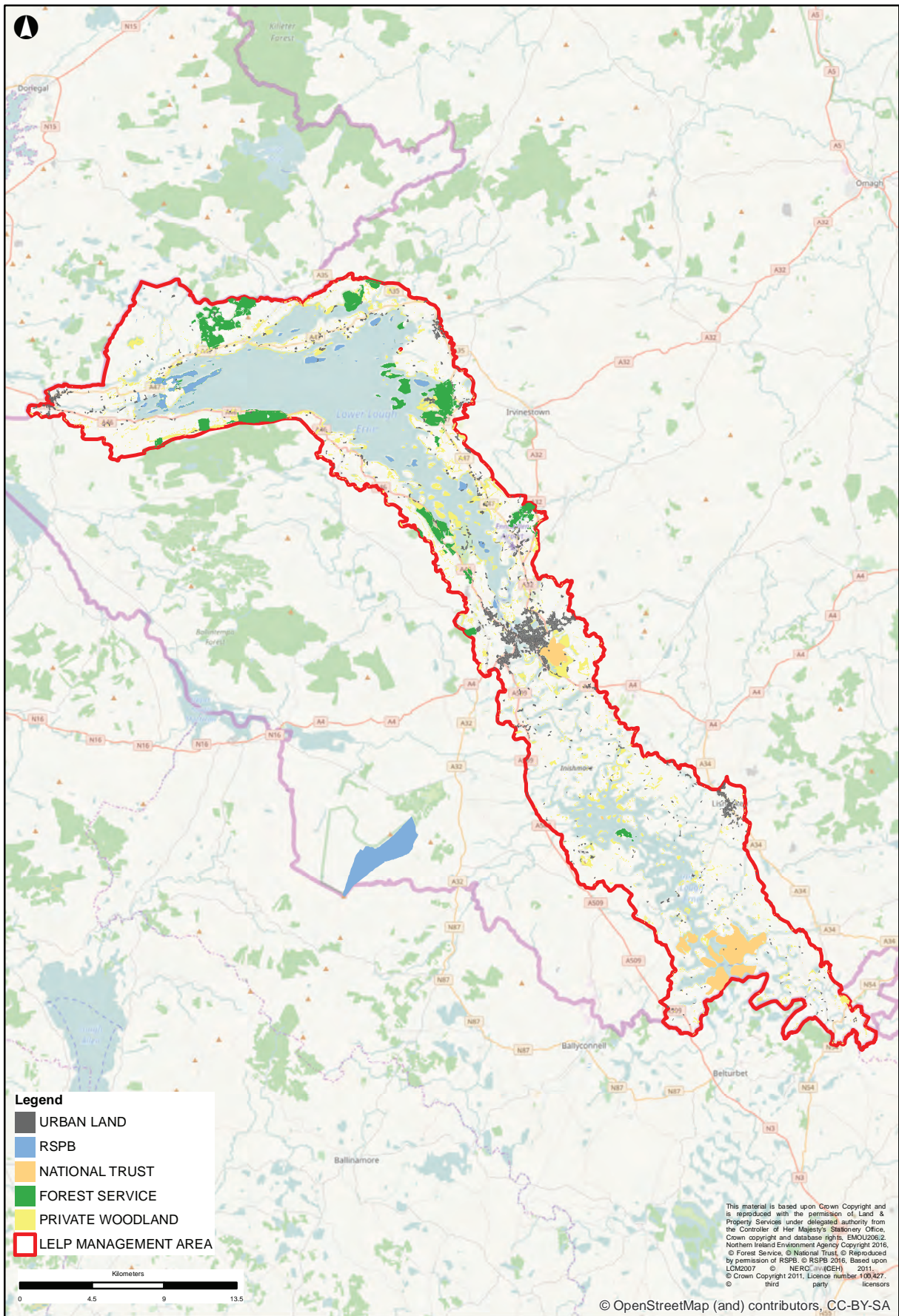


Figure 7.4 | Land Management

## 8. Threats and Opportunities

Threats and opportunities for the LELP area have been identified through desktop research, consultation with specialists and a series of workshops.

Threats can be described as something likely to cause damage. Within the context of the LELP area they can be described as a series of either high level issues which needs multi-organisational co-operation over a long period of time to address or more local scale issues which can be addressed by co-operation of relatively fewer organisations and potentially over a short timeframe.

Opportunities are identified as a set of circumstances that make it possible to do something and within the context of the LELP area they can be described as a series of strengths which can be built upon to achieve a long term vision for the area.

The top threats and opportunities considered to be of highest importance to the LELP area as identified during workshops and consultation are listed in the following sections.

### 8.1 High Level Threats and Opportunities

Table 8 | High Level Threats

High Level Threats	Description of Threat
Climate change	<p>Predicted climate changes for Northern Ireland are characterised by warming, rise in precipitation and potential evapotranspiration, but seasonal and annual effects are inconsistent and year-to-year variation may confound overall trends. Impacts of climate change on the biodiversity of the species-poor but unique ecological communities of Northern Ireland could be considerable, although these may be unnoticed by the general public. Invasion of more southerly, warmth-loving species replacing cold-adapted species at the southernmost edge of their ranges, may occur at different rates depending on habitats and types of species. Such changes are likely to be severely compounded by other impacts of human activity such as habitat fragmentation, agricultural change, invasion by alien species and eutrophication. Impacts on the biodiversity of NI's raised bogs and blanket bogs are, however, unlikely to be severe.</p> <p>Farming in the west may become more marginal as wetter winters adversely affect agricultural activities such as silage/turf cutting, and hay-making. Forestry and agri-forestry may however benefit from climate change, offering opportunities to improve the landscape in a continuation of the current shift from upland conifer planting to broad-leaved planting on land displaced from agriculture;</p>
Planning and development	<p>Inappropriate implementation of planning policy has the potential to impact negatively upon the natural environment within the LELP area. Appropriate implementation of planning policies relating to the natural environment will help prevent adverse impacts from development on the natural environment or where suitable situations apply will stipulate mitigation or compensation whilst taking into account impacts at a landscape scale;</p>

High Level Threats	Description of Threat
Agriculture and forestry	<p>The LELP area, its habitats and species have been formed not only through natural processes but also through thousands of years of agriculture. Agriculture has been, and can continue to contribute positively to nature conservation in the area however the past 70 years has seen intensification of agriculture throughout the UK and Ireland. This process of intensification has led to increased nutrient input, drainage of wetland, reseeded with fast growing grasses and direct removal of habitats such as hedgerows and scrub woodland. This has resulted in the degradation of semi-natural habitats which had up until the last century been created and maintained through traditional farming practices. This loss of semi-natural habitat has had a knock-on effect on those species dependent on semi-natural habitats. Intensive farming, including the use of fertilisers, is also recognised as a major contributing factor towards a decline water quality.</p> <p>Intensive forestry has had similar effects on loss of natural and semi-natural habitats. Coniferous forestry has been more often than not created on those areas which have been less suitable for intensive farming which are more likely to be habitats which are more ecologically valuable e.g. bog, heath and wet grassland. Forestry plantation is also recognised as contributing to declines in water quality through acidification and release of sediment.</p> <p>Hedgerows have been decimated under the previous round of DARD Single Farm/ Basic Payment CMS funding, as it has been understood that thick hedges would result in penalisation of subsidies. It is considered that a lack of aligned thinking between government funded schemes and how farmers can best manage their land for the environment has contributed to this disjoint between high level policy and local level need.</p>
Water quality	<p>The water quality of the Lough Erne basin, including lakes and running waters, provides ecosystem services such as freshwater fisheries, aquaculture, drinking water, tourism, public access and angling. There a number of waterbodies within the LELP area which are currently classified under the WFD as either Moderate or Poor status e.g. Ballycassidy River Upper, Glendurragh River, St Angelo Stream Erne, Colebrooke River and Colebrooke River Tributary. Recent research has found that nutrient levels in Upper Lough Erne are too high for high biodiversity levels to be sustainable in the long term. Water quality status within the lakes is also impacted by non-native invasive species. A combination of high nutrient levels and invasive species in particular, could cause a change, in Upper Lough Erne lakes, from their current state dominated by aquatic plants to state dominated by phytoplankton which would have significant implications on lake functioning and contribute towards resultant loss of biodiversity and ecosystem services.</p> <p>As outlined above, some of the major contributing factors to declines in water quality are inappropriate land management through agriculture and forestry.</p>
Lack of protection for EU sites, their habitats and species post BREXIT	<p>As listed in Appendix B, there are numerous EU environmental directives which will require equivalent UK legislation once the UK has left the EU. It is unclear how the Natura 2000 network of sites and associated Annex habitats and species will be protected and concerns have been raised that protection of these areas will be weakened.</p>
Lack of land access for recreation	<p>Attendees at all three workshops identified the lack of access for recreation in the LELP area as a major constraint to opening up the area for sustainable recreational and tourism opportunities. This lack of existing marked trails and a lack of enthusiasm from landowners to allow walkers across their land due to issues of liability is considered to have restricted the potential for areas such as along the lough shore being opened up for use by locals and tourists alike.</p>



High Level Threats	Description of Threat
Lack of consultation with the public/farmers/local community	A lack of consultation and awareness raising with the public/farmers/local community was also identified during workshops as a major constraint on public buy-in to nature conservation and tourism initiatives in the LELP area.
Lack of connection between (young) people and nature	The workshops identified that a lack of connection between people in the area (in particular young people) and nature could, and potentially has, resulted in a generational gap in appreciation for and local interest in protecting the natural environment.

Table 9 | High Level Opportunities

High Level Opportunities
Develop a coordinated multi-partner strategy for visitor and land management.
Secure political buy-in of local and NI-wide politicians and parties to understand the value of natural habitats and species with the next step with being real action to save threatened species and habitats.
Engage business community in the landscape and conservation activity.
Increase data, knowledge exchange and multi-partner analysis.
Conserve and enhance key sites and species.
Increase public awareness of the importance of ‘ecosystem services’ their fragility and the future impacts of climate change.

## 8.2 Site, Habitat and Species Threats and Opportunities

### 8.2.1 Threats

#### Sites

A list of sites with identified threats and opportunities are presented in the table in Appendix A. The location for each site is shown on Figures 8.1, 8.2, 8.3 and 8.4.

#### Habitats

The top threats to habitats as identified through workshops and consultation were:

- Agricultural intensification and land drainage or agricultural abandonment, both leading to loss of semi-natural grasslands and wetlands and their dependent species;
- Development in inappropriate locations and without proper baseline survey leading to loss of all types of semi-natural habitat and dependent species;
- Over emphasis on protection of designated sites as opposed to priority habitats leading to cumulative losses of large areas of semi-natural habitat such as wet grassland;
- Diseases, specifically Ash dieback with potential for catastrophic impacts specifically on habitats with high cover of ash including extensive species-rich hedgerows and semi-natural woodland;
- Lack of clarity on lake shoreline ownership and management with resultant adverse impacts on shoreline habitat;
- Water quality impacts on all open water and running water habitats;
- Lack of proper assessment of increased visitor access and associated development on habitats sensitive to such disturbance;
- Invasive species impacts on all habitats; and
- Unsustainable and unmanaged access to the countryside for recreation leading to loss and degradation of particularly sensitive habitats such as ancient woodland.

#### Species

Threats identified as being of relevance to habitats are also relevant to species, in particular those relating to land management e.g. intensification or abandonment of agricultural practices;

- Over emphasis on designated sites as opposed to priority species leading to loss of species through development on unvalued or unsurveyed sites;
- Gap in baseline data, particularly invertebrates, leading to development without adequate baseline information; or loss or inadequate protection of species or assemblages;
- Loss of habitat for breeding waders, in particular breeding curlew;
- Invasive species impacts on all species. And likelihood of new invasive arriving to NI facilitated through climate change. With resultant impacts on recreation and tourism in the lake, additional costs burden on government agencies who may need to seek additional funds to tackle invasive species;
- Signage being ignored by recreational users leading to disturbance of species, particularly groups such as breeding waders;
- Diseases, specifically Ash dieback with potential for catastrophic impacts specifically on ash and ash-dependent species. And likelihood of new diseases arriving to NI facilitated through climate change;
- Lack of next generation of recorders with resultant lack of data to protect important locations for individual species or assemblages of species;
- Land drainage impacting directly on wetland habitats; and
- Lack of proper assessment and management of increased visitor access and associated development on species sensitive to such disturbance e.g. water sports disturbance impact on breeding waders.

### **8.2.2 Opportunities**

The LELP area is home to a variety of semi-natural habitats and species which have populations either restricted or with stronghold populations in the area. Although some of these habitats and species are being degraded or lost to modern land management practices there are some ongoing projects which are having positive effects.

The landscape, including habitats and species can collectively be termed the area's Natural Capital and this natural capital provides many ecosystem services as outlined in Tables 1 and 2.

However, it is considered that the LELP area's Natural Capital and the ecosystem services it provides are not currently promoted or appreciated sufficiently. The promotion of public awareness of habitats and species as providers of ecosystem services is an opportunity to benefit both locals, tourists and the habitats and species themselves.

The still existing extensive network of semi-natural habitats within the LELP area provides opportunities to enhance or join up existing areas of these semi-natural habitats. Habitat management or creation can have knock-on effects on species which rely on these habitats. For example marsh fritillary butterfly relies on semi-natural grassland which contains abundant devils-bit scabious, its food plant, maintained in a low intensity grazing regime.

A list of actions to protect and enhance those habitats and species considered to be most in need, is provided in Section 9.



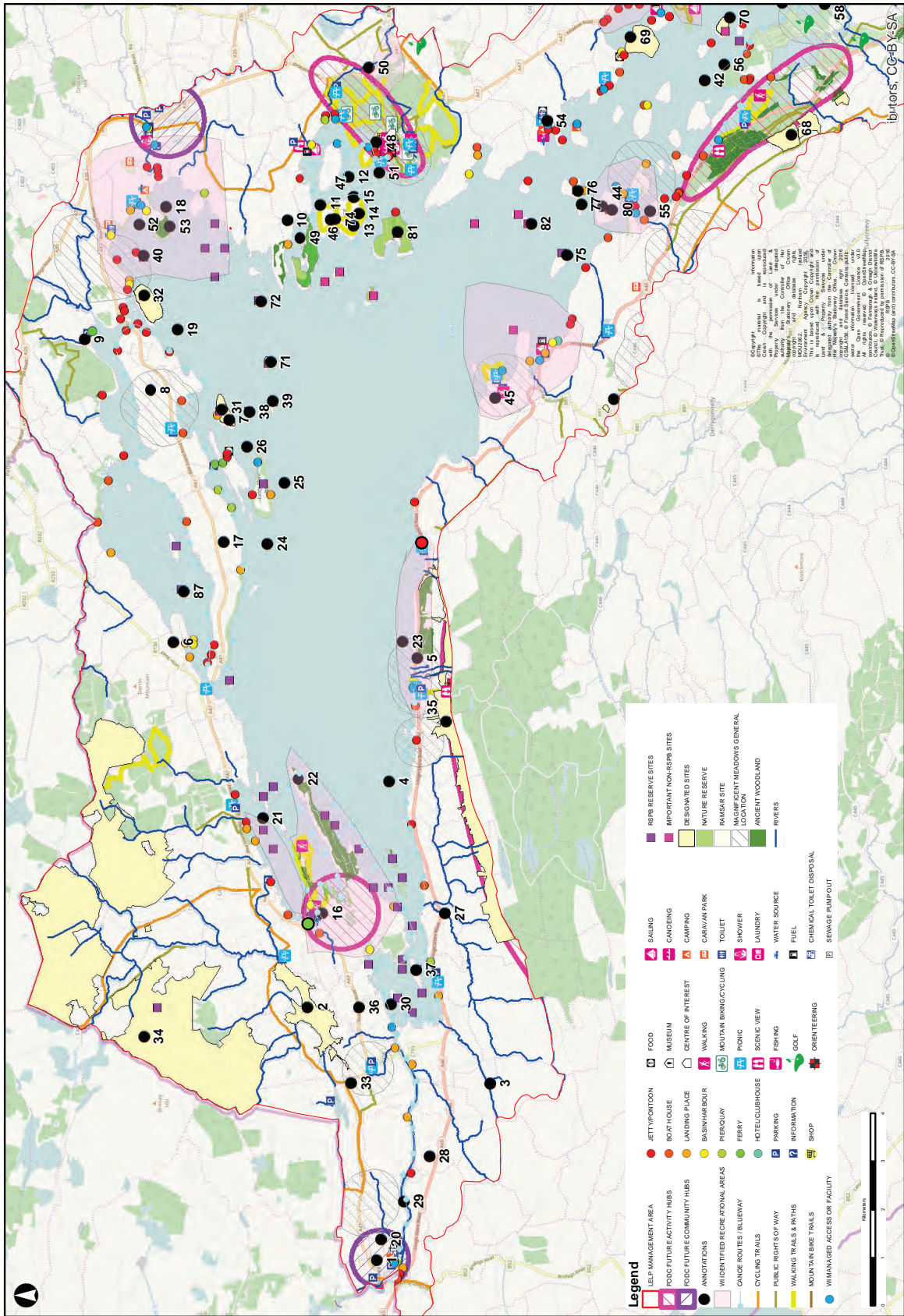


Figure 8.1 | Risks and Opportunities West Lower Lough Erne



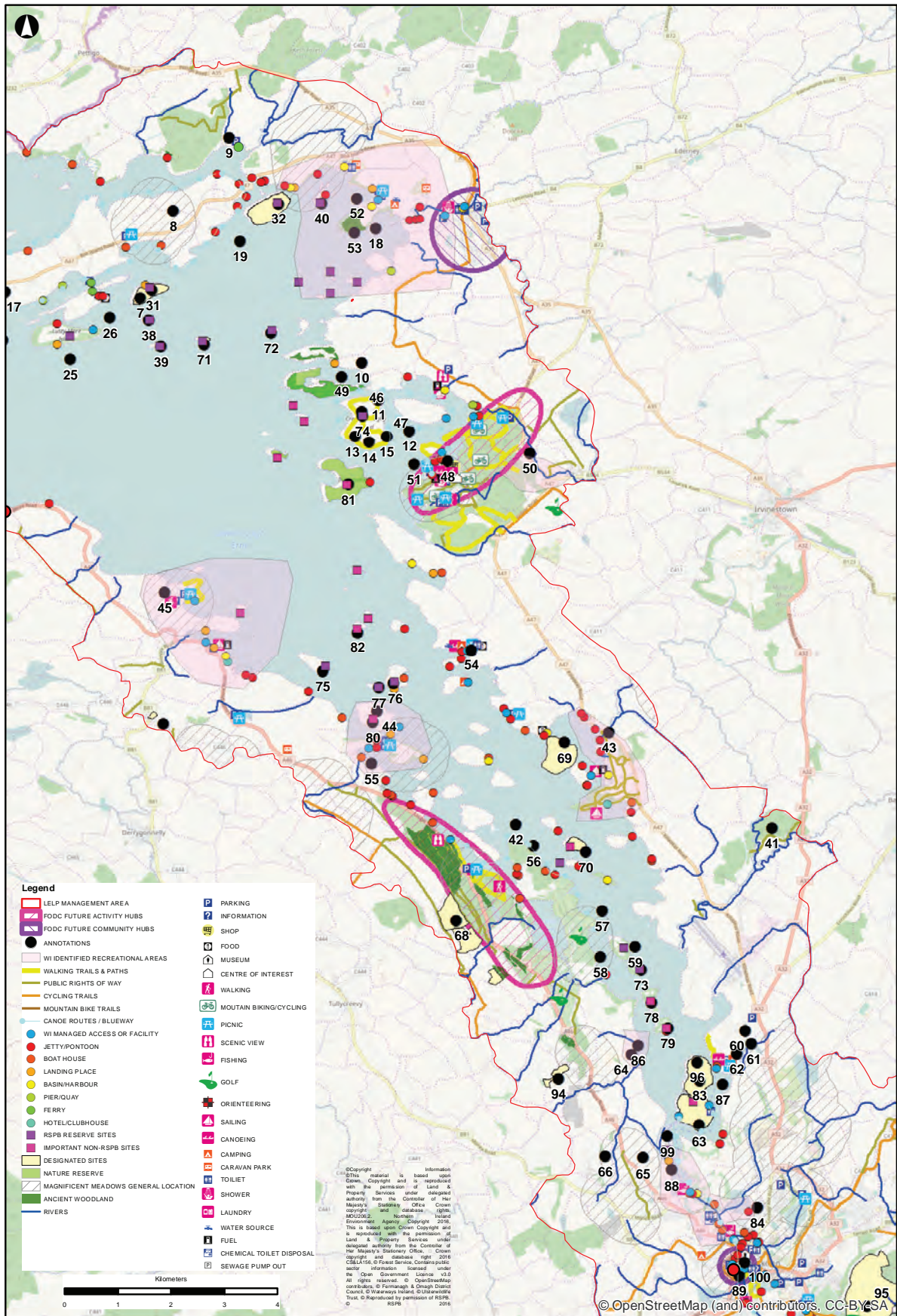


Figure 8.2 | Risks and Opportunities East Lower Lough Erne



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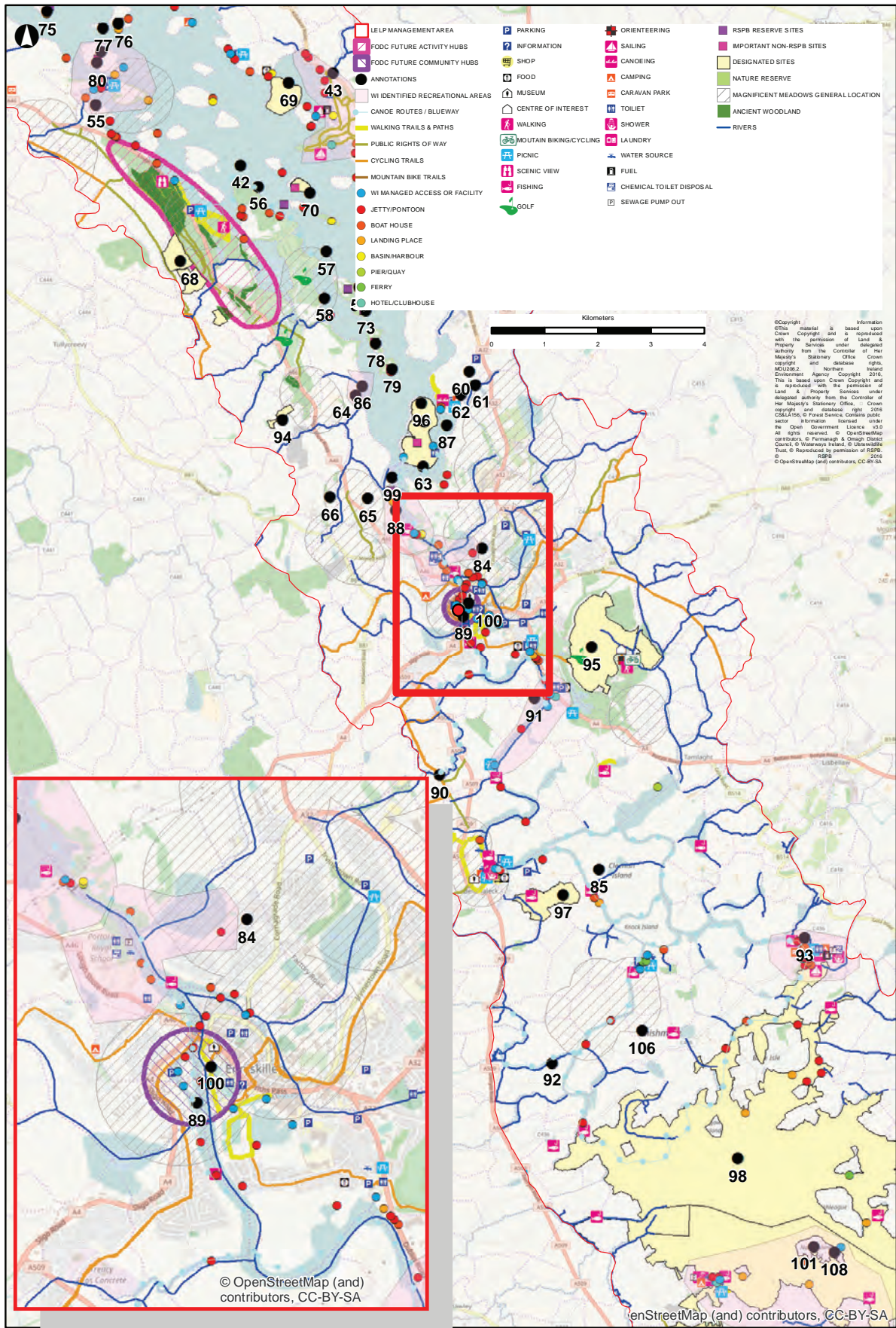


Figure 8.3 | Opportunities and Threats Enniskillen



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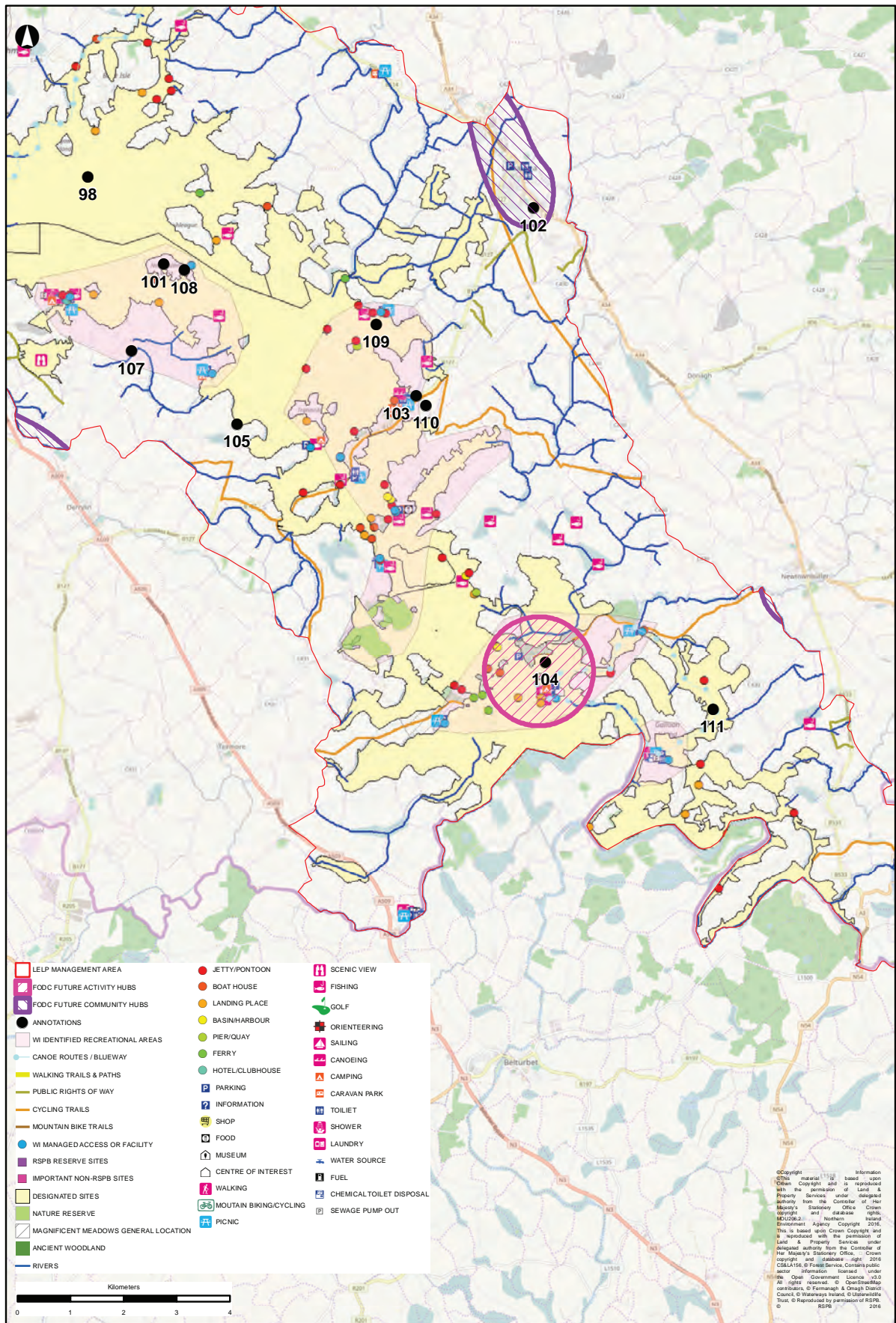


Figure 8.4 | Opportunities and Threats Upper Lough Erne

## 9. Recommendations

### 9.1 Introduction

Outlined in the following sub-sections are a series of recommendations of actions for LELP to consider. The recommendations range from those aimed at high level issues, such as management of the LELP area over a period of the next 30 years, to species specific issues such as support for management of sites for Irish hare.

### 9.2 Securing a Long-term Future for the LELP Area

#### 9.2.1 A 30 Year Vision for the LELP Area

Following the collation of workshop responses, it is considered that the following 30-year overarching vision encompasses a broad range of wishes for the future of the LELP area:

*“To protect an internationally important, unique landscape, supporting thriving communities, ecosystem services, economy and wildlife.”*

It is considered that the setting of a number of high-level objectives will be necessary to achieve this vision, these are:

- Promote landscape-scale conservation to create a more resilient natural environment;
- Promote sympathetic land management for sustainable habitats and wildlife in rural and urban areas;
- Promote nature based tourism to ensure the needs of the local economy and the important natural landscape are delivered in a manner that benefits all;
- Support increased surveying, monitoring and reporting of biodiversity within the LELP area;
- Support and enhance recreation and use of the lake in a manner that enhances and supports the conservation of the natural and built heritage assets of the lakes, whilst also supporting surrounding communities;
- Raise awareness of nature conservation; and
- Seek to influence the impact of development on wildlife.

The achievement of these objectives over a thirty-year period will necessitate long term management of the area. There are a number of methods through which the future of the area can be managed and these and any alternatives should be explored.

The formation of a Landscape or Heritage Trust or other landscape-scale body to manage or oversee the long-term conservation and enhancement of the LELP area is considered to be an important tool in achieving that long-term vision. This body would also be able to oversee management of the area with a view to addressing those high-level threats identified in Section 8.

#### 9.2.2 A Heritage or Landscape Trust

In order to oversee the long-term conservation and enhancement of the LELP area a Landscape or Heritage Trust can be set up. The Lough Erne Heritage Trust (LEHT) would be formed to inspire everyone with an interest in the LELP area to get involved in the area’s conservation and enhancement with the goal of achieving a long-term vision for the area.

The trust would seek to raise funds for landscape and wildlife conservation projects, manage a small projects grant fund and establish and manage a programme for volunteer involvement within the LELP area. In addition, it could raise awareness and understanding of the LELP area through the development of an events programme and educational projects.

A LEHT, or equivalent body, working in partnership with others to guide management of landscape and wildlife is crucial to the LELP area. A LEHT could also help to build capacity and resourcing with the goal of achieving the long-term vision and objectives.

The LEHT could also provide guidance and help for local businesses on how to ‘Green’ their organisations and sustainably take advantage of the area’s natural resources, with a particular focus on sustainable tourism. The LEHP area is recognised as having significant Natural Capital which is currently under-utilised as a recreational and tourism resource. Therefore, close co-operation between a LEHT and the local business community could contribute to increased tourism and recreational income for the area by making the most of the area’s Natural Capital.



### 9.2.3 Building Capacity and Resourcing

Building Capacity and Resourcing should be an important aspect of the LELP. Any projects arising from the LELP and carried out within a five-year implementation period will need ongoing management and assessment to ensure that when short-term actions are completed and goals are met, that these achievements are maintained or enhanced to support the long-term vision.

The founding of a landscape or heritage trust or other strategic means of building capacity and resourcing are considered to be the most secure and viable way of supporting the long-term future of the LELP area. However, the opportunity exists for the current LELP partners to contribute toward building capacity and resourcing to aid in promoting nature conservation in the LELP area. This could be achieved by using the following tools:

- Potential for a service level agreement involving the partners to provide a member of staff for one day per week (equivalent), to cover tasks such as writing management plans, working with schools and developing ‘friends of’ groups;
- Annual networking conference for partners or working group quarterly meetings with a rotating chair; and
- Ongoing training programme open to all nature conservation volunteers. Training can be provided by partners or outside experts as required and can include practical and technical skills, fundraising, and health and safety.

### 9.2.4 Financial Support

In order to secure long-term funding for the LELP area the most viable method is the creation of a Landscape or Heritage Trust which would liaise with local, national and international funding organisations and oversee or assist local organisations in the sourcing of funding on a short-term and long-term basis.

The HLF LELP Landscape Partnership can be seen as a vehicle for the initial funding of projects over the next few years. Whilst the focus of LELP may be the funding of projects which will be carried out over the next few years it should also contribute towards the formation of a body which will oversee or assist in identification of funding as described above.

As part of the long-term funding model the LELP partners should seek to co-operate in the development of a small scale grant scheme for landowners which would aim to restore or create habitats and for community groups for tools, materials, training or insurance.



LELP Staff , partners and stakeholders.



## 9.3 Habitats and Species Actions

### 9.3.1 Introduction

Information gleaned from desktop research, workshops and stakeholder engagement have identified the top priorities for habitat and species within the LELP area. These were based on the merits of national and regional priority, conservation status, extent, rarity and importance to local people.

Key species for action also include those that could be identified as flagship species which are either iconic or have the potential to inspire people to take support conservation efforts or take action. This is a similar exercise to that carried out to inform the FOLBAP 2016-2020 however it is tailored to those species that have been identified as being priorities for the LELP area.

### 9.3.2 Habitats

LELP can assist in the landscape scale conservation of habitats by targeting those areas which can be initially restored over the short term of the lifetime of the LELP partnership i.e. 5 years and thereby contribute to a long-term vision of a habitat mosaic for the LELP area. The general principles of “*Bigger, Better, More, Connected*” as described in the Lawton report “*Making Space for Nature*” (2010) (which reviewed England’s wildlife sites and ecological network) should be applied toward the landscape scale conservation of habitats within the LELP area. These principles are also recognised through other policies and the visions of some of the LELP partners. For example, the Wildlife Trusts, which Ulster Wildlife is one of, have a Living Landscape vision which takes a landscape-scale approach to conserving nature in the UK<sup>20</sup>. This involves enlarging, improving and joining up areas of land to create a connected ecological network across the UK, for the benefit of both wildlife and people and provides a basis for prioritising where action should be taken for habitats on a landscape scale. The Wildlife Trusts Living Landscapes consist of:

#### Core areas of high quality wildlife habitat

Often these will be protected areas, nature reserves, Areas of Special Scientific Interest (ASSIs) etc. These are the vital sanctuaries from which wildlife will be able to re-emerge into the wider landscape once it is restored;

#### Connections between core areas

Continuous corridors of suitable habitat, such as river valleys or diverse hedgerows, act as ‘wildlife highways’ allowing species to travel through areas disturbed by human influence as they disperse through the landscape to find suitable living conditions – this is even more important in the face of climate change.

Habitats can also be connected by a series of stepping stones, rather than a large swath of continuous habitat. Stepping stones are smaller, unconnected natural areas, pockets of protected land that act as stop-off points for wildlife on the move – for example a series of copses in open grassland; and

#### Permeability across the whole landscape

Land between the core areas and connecting habitats needs to be more accessible to wildlife. It may not all be pristine habitat but we can make changes to the way that land is managed so that it is easier for wildlife to move through and re-colonise the landscape.

These three core principles are discussed in relation to the broad habitat types which have been mapped from LCM2007 mapping. Recommendations are made for the improvement of these core areas.

Opportunities for implementing the above principles in an overall habitat mosaic are outlined in the drawings associated with each habitat and species as listed in the tables below.

In order to address a perceived over-emphasis on designations as opposed to priority habitats, LELP should seek to assist in the recommendations in the NI Biodiversity Strategy and in the local biodiversity action plan being implemented.

<sup>20</sup> See <http://www.wildlifetrusts.org/node/3661>

The Environmental Farming Scheme (EFS) announced in January 2017 provides an opportunity for LELP to work with farmers to contribute towards the protection of habitats and species through three levels:

- A higher level, primarily for environmentally designated sites and other priority habitats;
- A wider level to deliver benefits across the countryside, outside of environmentally designated areas; and
- A group level to support cooperative action by farmers in specific areas such as a river catchment.

The mapping system used for the EFS scheme is potentially a really interesting way to approach landscape management where enhancement options are built into the online system. Liaison and co-ordination with DAERA in order for LELP to gain some limited access to this data would be valuable in targeting the expansion and joining up of priority habitats.

It is considered that all actions as identified in Tables 10, 11 and 12 for the benefit of biodiversity could potentially be supported through the EFS. LELP should seek to promote this scheme as a means of facilitating the actions outlined.

The following topics have been identified as overarching areas which should be considered further through LELPs work:

- Enhancement;
- Restoration;
- Better liaison with land owners;
- Habitats Directive Article 10 mapping;
- Wildlife corridors and habitat / species connectivity;
- Farmland Management through:
- DAERA guidelines;
- Magnificent Meadows;
- New agri environmental scheme - group options; and
- Post-Brexit implementation and regulation.

Table 10 | Habitat Actions

Habitat	LELP Locations	LELP Action
Lake shore wetlands	Throughout the LELP area along all lake shorelines. This habitat has been identified as being particularly important within the LELP area and subject to pressures which sometimes can arise from lack of clarity over ownership.	<p>In order to address the existing pressures on lake shore wetland habitats LELP should seek to:</p> <ul style="list-style-type: none"> <li>• Engage with those currently managing land adjacent to the lakeshore with a view to prioritising sensitive management to enhance the area for ecology;</li> <li>• Assist in the provision of education to those involved in making planning decisions and those who manage or own shoreline so that hard inert materials for shoreline defence are minimised where possible;</li> <li>• Support catchment woodland planting particularly where this would provide multiple benefits of contributing towards improving water quality and flooding. This should however be considered on a site by site basis as woodland planting may not be suitable where high quality grassland habitats are present; and</li> <li>• Support education of landowners and managers of this sensitive habitat including education in Best Practice Measures on how to protect shorelines; provision of dedicated watering stations for livestock, planting of reed fringes to reduce impacts of erosion;</li> <li>• Education of boat users in stemming boat wash in sensitive areas;</li> <li>• Identification of boat wash sensitive areas and compiling a suite of mitigation measures with land owners, boat users and navigational authorities;</li> <li>• Creation of community volunteer programmes to help build Eco Erosion Control “Soft Engineering” methods are chosen erosion hot spots, which would be identified along the lake shores; and</li> <li>• Liaise with Rivers Agency, NIEA, WI, FODC and other partners and interested stakeholders to identify specific locations where land ownership issues need to be clarified and support a study to identify where ownership lies and how current issues can be resolved.</li> </ul>



Habitat	LELP Locations	LELP Action
Semi-natural grassland including wet meadows	These habitats cover much of the LELP area. Loss of this habitat through intensification and abandonment has been identified as a threat. The loss of this habitat has knock on effects on dependent species such as breeding waders, Irish hare and marsh fritillary.	<p>LELP should seek to support actions to encourage the maintenance and restoration of wet grassland within the LELP area should be given priority. Although this habitat maintenance or restoration should be considered throughout the LELP it is considered that priority should be given to those locations identified in the breeding wader maps, Figures 9.8 and 9.9. These areas are considered to be strategically placed to either build upon existing schemes such as Magnificent Meadows or HELP and could include the extension or improvement of existing areas of good quality habitat or creation of habitat on existing improved habitats such as improved grassland.</p> <p>The protection and enhancement of semi-natural grassland areas in the wider project area that are good grasslands but not necessarily good for waders should also be supported by LELP.</p>
Native woodlands with specific focus on Ancient Woodland	Ancient woodland has been identified as a significant ecological resource for the LELP area. This habitat is found throughout the LELP area and is considered to be under threat from inappropriate development, overgrazing and ash die back.	<p>To assist in the protection of ancient woodland LELP should seek to:</p> <ul style="list-style-type: none"> <li>• Support those actions and projects which promote the use of Ancient Woodland seed source for expansion and reconnection of woodland habitats (See Figures 9.1 and 9.2);</li> <li>• Support those actions and projects which aim to manage existing ancient woodland for non-native invasives;</li> <li>• Support the Ancient Woodland Inventory programme so that existing stands of ancient woodland can be identified mapped and appropriate action taken conserve and connect with other woodland habitats;</li> <li>• Liaise regularly with DAERA Forest Service and Plant Health Unit to get up-to-date advice on the national and local status of ash die back (See Figures 9.1 and 9.2 for current distribution of ash die back within the LELP area) and a co-ordinated effort from all LELP partners should be made to ensure all relevant stakeholders are educated with regard to this disease and its potential implications; and</li> <li>• Support the implementation of UK Woodland Assurance Scheme (UKWAS) compliance<sup>21</sup>.</li> </ul>

21 The UKWAS standard is an independent certification standard for verifying sustainable woodland management in the United Kingdom, see <http://ukwas.org.uk/>

Habitat	LELP Locations	LELP Action
Hedgerows	<p>Hedgerows are an important ecological component of the Irish countryside and are distributed throughout the LELP area. This habitat is under threat from removal for agricultural intensification and ash die back.</p>	<p>LELP should seek to work with DAERA, landowners and other relevant partners to assist in protecting existing hedgerows and planting new hedgerows throughout the LELP area;</p> <p>Particular attention should be paid to those locations where ash die back has been identified (See Figures 9.1 and 9.2 for current distribution of ash die back within the LELP area) and LELP should seek to assist efforts to control the spread of this species in the LELP area and assist to educate and inform the public about this disease; and</p> <p>LELP should liaise regularly with DAERA Forest Service and Plant Health Unit to get up-to-date advice on the national and local status of ash die back and a co-ordinated effort from all LELP partners should be made to ensure all relevant stakeholders are educated with regard to this disease and its potential implications.</p>
Bog and Turlough Habitat	<p>Bog and turlough habitats are restricted in range within the LELP area. These habitats both have very specialised associated assemblages of plant and animal species and are protected at international level.</p> <p>Turlough habitat, in particular, is very locally restricted to the Fardrum and Roosky turloughs.</p> <p>Blanket bog habitat is located within the expanse of the Pettigoe Plateau.</p>	<p>In consultation with NIEA, LELP should seek to assist in the conservation and where appropriate restoration of these habitats. Both of these habitats are located within EU designated sites therefore the new DAERA farm environmental scheme could facilitate sensitive management or restoration of these habitats.</p> <p>LELP should support liaison with DAERA as to how the new scheme could be promoted in these areas.</p>

Habitat	LELP Locations	LELP Action
Open Water Running Water	<p>Water quality within the LELP area has been recognised as a major threat to the long-term vision for the area.</p> <p>The waterbodies which overlap with the LELP boundary, with less than good within the Upper and Lower Lough Erne catchments are as follows:</p> <p>UKGBNI1NW363602016 Colebrooke River Tributary</p> <p>UKGBNI1NW363602018 Colebrooke River</p> <p>UKGBNI1NW363602024 River Erne Tributary</p> <p>UKGBNI1NW363602025 Hollybrook River</p> <p>UKGBNI1NW363602039 River Erne Enniskillen</p> <p>UKGBNI1NW363601005 Lisnarick River</p> <p>UKGBNI1NW363601032 St Angelo Stream Erne</p> <p>UKGBNI1NW363601042 Ballycassidy River</p> <p>UKGBNI3NW0006 Lower Lough Erne Kesh</p> <p>UKGBNI1NW363602063 Upper Lough Erne</p> <p>UKGBNI3NW0008 Upper Lough Erne</p> <p>UKGBNI1NW363601006 Kesh River</p> <p>UKGBNI1NW363601048 Glendurragh River</p> <p>UKGBNI1NW363601080 Garvary River Upper</p> <p>UKGBNI1NW363601072 River Erne Lower</p>	<ul style="list-style-type: none"> <li>• Liaise with NIEA Catchment Management Officer (CMO) to identify water bodies under pressure which would benefit from catchment management measures. This includes the following catchments, currently at Poor status where action is needed in the short-term to improve status so that these waterbodies achieve their WFD objectives: <ul style="list-style-type: none"> <li>- UKGBNI1NW363601006 Kesh River;</li> <li>- UKGBNI1NW363601048 Glendurragh River;</li> <li>- UKGBNI1NW363601005 Lisnarick River;</li> <li>- UKGBNI1NW363601032 St Angelo Stream Erne; and</li> <li>- UKGBNI1NW363602018 Colebrooke River.</li> </ul> </li> <li>• Seek to support farmers in catchments throughout the LELP area but in particular in the above catchments which are at Poor Status. All landowners in these catchments should be supported to apply for the Environmental Farming Scheme group level to support co-operative action by farmers in specific areas such as a river catchment;</li> <li>• Seek to support agricultural advisory mechanisms;</li> <li>• Liaise with NIEA and partners to record locations of invasive species;</li> <li>• Seek to develop citizen science projects aimed at recording invasive species throughout the LELP area in cooperation with NIEA and other relevant partners;</li> <li>• Seek to support NIEA in raising awareness and promoting the benefits of effective farm nutrient and waste management;</li> <li>• Seek to support NIEA, in cooperation with relevant partners, in the identification of specific sub-catchments which would benefit from practical management measures on farms;</li> <li>• Liaise with CMO to identify how outcomes of this budget work could feed into LELP work;</li> <li>• Liaise with CMO to identify how outcomes of this review could feed into LELP work;</li> <li>• The Rivers Agency’s watercourse maintenance program for 2016/17 identifies a number of locations within the LELP area for works. One of the areas include Remedial works at pumping station at Killynure Lough Drain. Liaise with CMO to identify how LELP can use the RA watercourse maintenance program to identify where habitat enhancement work can be prioritised;</li> <li>• Seek to support the NIEA in the development of leaflets and articles to promote effective farm nutrient and waste management; and</li> <li>• Liaise with CMO to identify external funding opportunities for water management projects.</li> </ul>



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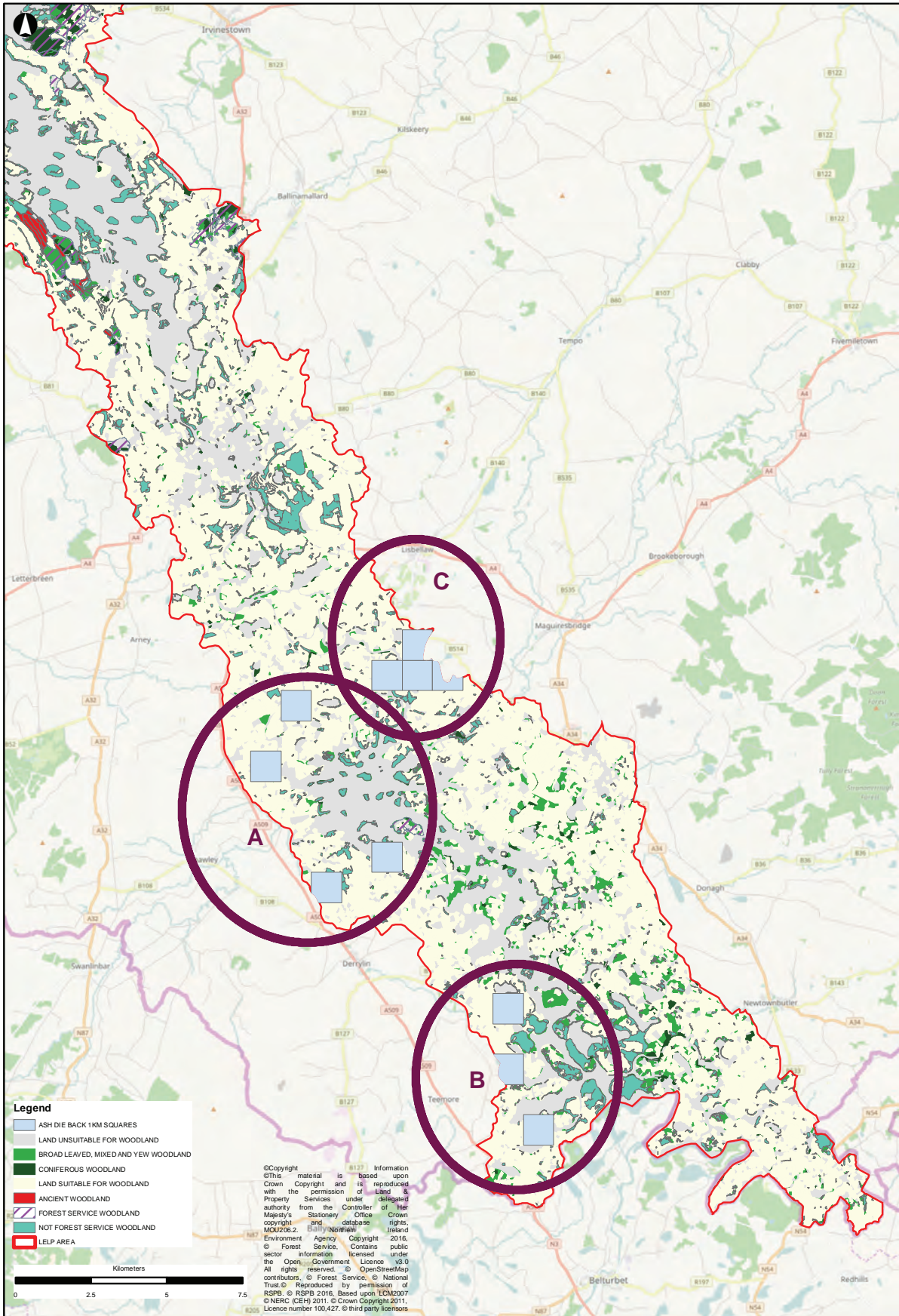


Figure 9.1 | Woodland - Ash Die Back | South



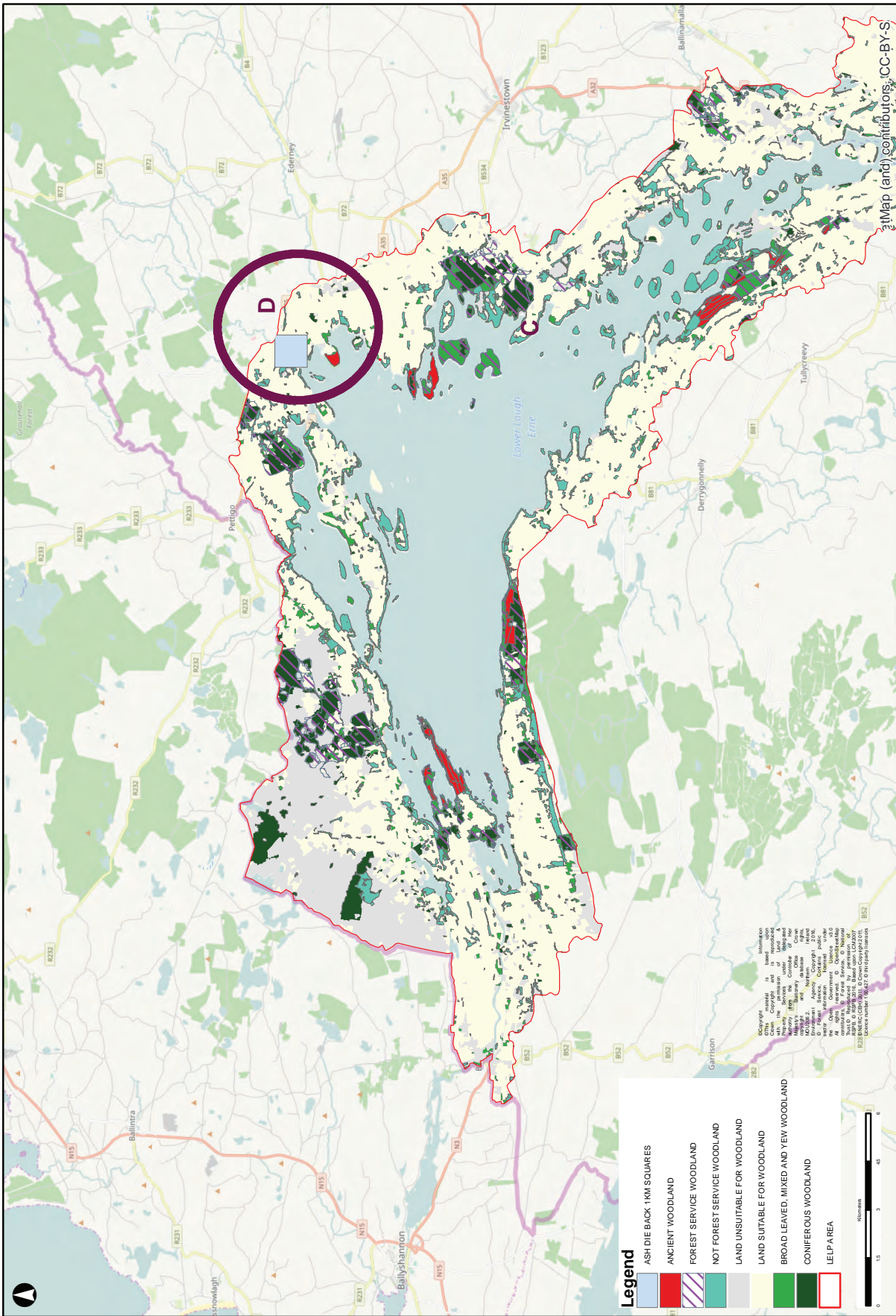


Figure 9.2 | Woodland - Ash Die Back | North

### 9.3.3 Species

This section provides a selective list of species which have been identified as requiring actions to further their conservation. These species or groups of species identified as priorities for action have been based on their merits of national and regional priority, conservation status, extent, rarity and importance to the LELP area in general either within a social or historical context.

Many of the actions identified can be applied across different species and may benefit more than one species or species group and can be directly linked to habitat improvement e.g. actions to help breeding waders will likely have cross-over benefits for Irish hare, marsh fritillary and their supporting habitats such as wet grassland.

The assessment for need relating to any proposed project should be assessed through the interrogation of GIS information and background data available.

Some over-arching recommendations for species are:

- The introduction of events like Bioblitz within the area;
- The education of the general public and school children by using charismatic or ‘flagship’ species; and
- Close liaison with recording groups to identify future need for particular species groups.



**Table 11** | Actions for Key Species and Key Species Groups in the LELP Area

Species	LELP Locations
White-clawed crayfish	<p>White clawed crayfish are common in feeder streams running into Lower Lough Erne, in lakes on the Lough Navar highlands, in streams on the eastern side of Upper Lough Erne and in the marl lakes on the County Fermanagh border with Monaghan near Rosslea. Distribution is restricted to waters with high levels of calcium, needed by the animal to build its limy carapace.</p>

Red Squirrel	<p>Red squirrel is widely distributed throughout the LELP area with recent (2015-2016) records from:</p> <ul style="list-style-type: none"> <li>• The Kesh area, Lisnaskea, Killyvilly, Lisbellaw, and Boa Island Road (likely isolated woodland or hedgerow);</li> <li>• Ely Lodge Forest (ancient woodland);</li> <li>• Ballinamallard and Derryvore (broadleaf &amp; coniferous woodland part of Crom);</li> <li>• Around Castlecaldwell in various habitats;</li> <li>• Blaney East (isolated woodland);</li> <li>• Castle Archdale Forest (various habitats);</li> <li>• Belleisle Demesne (woodland);</li> <li>• Enniskillen (various pocket habitats);</li> <li>• Lilladeas (lakeshore woodland);</li> <li>• Inishfendra (likely riverbank habitat, woodland part of Crom);</li> <li>• Ballhose/Coagh (mixed woodland);</li> <li>• Slawin (lakeshore woodland or hedgerow);</li> <li>• Killyhevlin and Castle Coole (broadleaved woodland);</li> </ul>
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22 The UK Strategy for red squirrel conservation (Joint Nature Conservation Committee, 1996), prepared in consultation with a wide range of interested and where grey squirrels are currently rare or absent. Such areas might be either unsuitable for grey squirrels or vulnerable to grey squirrel invasion. squirrel populations. 3. To reintroduce red squirrels to selected areas in their former natural range where the ecosystem can be effectively managed t

## LELP Action

LELP should seek to support conservation effort for white-clawed crayfish, particularly within the waterbodies identified on Figure 9.3. The following actions should be supported through the LELP area however particular attention should be paid to the waterbodies in the identified area.

- a) Support citizen science and other survey and recording schemes to record exact distribution of this species in appropriate areas;
- b) Support the promotion of correct procedures of where to report sightings of crayfish plague and non-native crayfish introductions;
- c) Support catchment management activities, particularly in catchments where freshwater crayfish are considered likely to be under threat i.e. those waterbodies at Moderate or Poor status: Bannagh River, Lough-a-Mache River, Sillees River, Waterfoot River, Mantlin River, Finn River and Erne River (Belleek);
- d) Support the dissemination of information on biosecurity measures in place regularly;
- e) In liaison with relevant partners support the education of waterway users to become familiar with the identification of the native and non-native crayfish; and
- f) Highlight the species alert on <http://www.biodiversityireland.ie/crayfish-plague/> to all lake and river users.

**Notes:**

The Crayfish plague disease can be carried on wet equipment so ALL equipment (clothing and fishing gear) that has been in freshwater must be treated with a disinfectant and then completely dried before moving to another area. This will avoid the accidental spread of the disease to other areas.

It is illegal to release any non-native crayfish into Ireland's waters.

LELP should seek to support conservation effort of red squirrel, in co-operation with FRSG, through:

- a) The support of a co-ordinated approach for control of grey squirrel and conservation/restoration of red squirrel populations, including liaison with FRSG;
- b) Enhancement of existing red squirrel stronghold locations<sup>22</sup> (locations of recent CEDaR records are identified by CEDaR records from 2001-2016 on Figure 9.4 and 9.5). Enhancement of these general locations should be carried out in consultation with the FRSG and FS but could include actions such as selective tree removal and planting, and control of local grey squirrel populations;
- c) Creation of new stepping stone woodland habitats and corridors, such as hedgerows, between hotspots as identified on Figure 9.4 and 9.5:
  - A. Crom Estate to Derrylin;
  - B. Crom Estate to Castlesaunderson
  - C. Coagh Woodland to Ely Lodge Forest;
  - D. Cliffs of Magho / Lough Navar – potential control of grey population and if necessary reintroduction of reds;
  - E. Castlecaldwell population expansion northwards – link core Castlecaldwell population to patches of forestry through enhanced corridors and new patches of woodland; and

parties, identified aims in priority order as: 1. To maintain self-sustaining populations of red squirrels in areas where red squirrel populations are healthy  
2. Wherever practicable, to maintain or expand red squirrel populations that are currently threatened because of isolation, small size or proximity to grey  
to support viable populations.

Species	LELP Locations
Red Squirrel (cont'd)	<ul style="list-style-type: none"><li>• Sillees River (riverside woodland); and</li><li>• many older records from throughout the LELP area, in particular at Crom Estate.</li></ul>

Bats

There are numerous records through the LELP area but with particular concentrations of records in the areas identified on Figures 9.6 and 9.7 (Locations A-G).



## LELP Action

F. Castle Archdale to Kildaes and Ballinamallard.; and

d) projects where there is cross co-operation with Ulster Wildlife Red Squirrel United staff who can provide Lantra accredited training to control grey squirrels.

General recommendations from the FRSG for landscape scale conservation to benefit red squirrels include:

- Retaining woodlands and forests of mixed ages;
- Maintaining and enhancing connectivity between woodlands and forests;
- Raising awareness of the species and its conservation; and
- Any actions to benefit red squirrel should also be mindful of the pine marten which occupies the same habitats and is believed to play an important role in controlling grey squirrel populations and thereby benefitting reds.

Any actions to benefit red squirrel should also take into account the potential impact on and from the grey squirrel population. In particular, the following should be noted:

Grey squirrel is present in the LELP area and measures should be in place on a landscape scale to promote the control of grey squirrel and encourage the maintenance and expansion existing, or establishment of new red squirrel populations, with particular regard paid to those locations where red squirrels appear to have a stronghold.

In addition, the following local actions from the FOLBAP should be supported:

- Encourage red squirrel records to be submitted to CEDaR;
- Celebrate Red Squirrel week each October;
- Work in partnership with NGO's and public landowners to seek viable solutions to the grey squirrel threat;
- Highlight the importance of wildlife corridors to allow squirrels to move safely across the landscape;
- Educate on the importance of grey squirrel control; and
- Educate on best practice in supplementary feeding reds.

**Note:**

The Northern Ireland Squirrel Forum (NISF) have produced detailed guidance on trap and feeder hygiene which should be adhered to when appropriate.

LELP should seek to support conservation effort for bats through:

- Enhancement of existing bat stronghold locations (locations of recent CEDaR records are identified by NIBG records from 2001-2016 on Figure 9.6 and 9.7). These include:
  - A. Crom Estate and surrounds – there are many records from this area and it is considered that stronghold location of Crom Estate provides an opportunity to enhance corridors such as treelines and hedgerows, enhance roosting opportunities in existing record locations for bats through installation of bat boxes, reduction of light spill;
  - B. Lisnaskea to Crom Estate – a concentration of records at both Lisnaskea and Crom Estate present an opportunity to create or enhance commuting and foraging corridors for bats in between these two stronghold locations. This would involve supporting the retention of existing, and creation or enhancement of new, hedgerow and treelines in this general area. Installation of bat boxes on trees particular in or near woodland in this area would also provide temporary roost sites;
  - C. Inishmore – an east-west distributed concentration of bat records with patches of woodland and a number of small lakes around the area of Inishmore suggest that this area is suitable for general enhancement for local bat populations;

Species	LELP Locations
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Bats (cont'd)

## LELP Action

- D. Ballinamallard – a number of records in this area suggests that it is suitable for general enhancement for local bat populations. There are a number of patches of woodland and the Ballinamallard River provides a good stepping stone and corridor links;
- E. Castle Archdale to Kesh - a concentration of records in the general areas of both Castle Archdale to Kesh present an opportunity to create or enhance commuting and foraging corridors for bats in between these two stronghold locations. This would involve supporting the retention of existing, and creation or enhancement of new, hedgerow and treelines in this general area. Installation of bat boxes on trees particular in or near woodland in this area would also provide temporary roost sites;
- F. Boa Island Road – there are a number of individual bat records within this area in proximity to Boa Island Road. It is likely that there are more local bat populations and future surveys could be prioritised here. The frequency of records in an east-west direction suggests that general enhancement for local bat populations in along an east-west axis may enhance bat populations in the area; and
- G. Castlecaldwell and Rosscor – a spread of bat records in this area suggest a core population which could be maintained or enhanced through general measures along linking watercourses, field margins and the lough shore.

Enhancement of these general locations and the habitat corridor and habitat quality throughout the LELP area should be carried out in consultation with the NIEA, NIBG and FS and NT.

LELP should seek to support specific actions for bat populations throughout the LELP area but in particular at the above identified priority areas. Overarching actions which LELP should seek to support include:

- The assessment of all projects for their potential to impact on bat roosts and bat populations through close liaison with NIBG;
- The assessment of impacts on habitats such as trees, buildings, caves and disused mines which bats use to roost and on specific habitats used by certain species for foraging and navigation use e.g. Daubenton's bat using waterways and water bodies through close liaison with NIBG;
- Increasing connectedness in the landscape such as increased hedgerow and woodland planting between known bat roosts through liaison with and education of landowners and DAERA officers in co-operation with NIBG. Increase connectedness through planting could be facilitated through schemes such as the EFS;
- Survey for bat species prior to development through training for assessment of survey need of FODC planners in co-operation with NIBG;
- Implementation of the NI Woodland Habitat Action Plans;
- The maintenance of the current range;
- The promotion of plants that attract insects;
- The retention of trees that have holes but are otherwise safe;
- Public education and engagement for more tolerance of bats roosting in buildings; and
- The monitoring of sites and population sizes and send in records to the NIBG and CEDaR through co-operation with NIBG on training, provision of bat detectors, and promotion of existing schemes.



Species	LELP Locations
Curlew, lapwing, redshank and snipe	<p>The Lough Erne basin holds the largest remaining assemblage of breeding waders, a group of migratory water birds which typically have long legs and bills, in Northern Ireland and is one of the most important areas for this group across the whole of the island of Ireland. See Figures 9.8 and 9.9 for CEDaR records for these species and particularly important sites for breeding waders as identified by RSPB.</p> <p>Threats are wide ranging but include drainage, agricultural improvement, dereliction through abandonment and disturbance relating to inappropriate development, recreation and dogs.</p>

## LELP Action

In general, LELP should seek to support conservation effort for breeding waders throughout the LELP area through:

- working with landowners where waders occur to encourage sensitive management;
- highlighting of the threats to waders through media and guided walks and talks;
- encouraging responsible rambling in sensitive areas during breeding season;
- liaising with RSPB, NIEA and the Curlew Task Force so that conservation efforts are co-ordinated on an all-island scale; and
- promoting the recording of waders across the LELP area.

In particular, the enhancement of existing or potential breeding wader stronghold locations (locations of recent CEDaR records from 2001-2016, RSPB reserve islands and non-RSPB islands shown on Figures 9.8 and 9.9). These include:

- A. In the general location of the RSPB Fermanagh Focus Area sites. This area is considered likely to be a solid core area where relationships have been developed with local landowners and opportunity exists for enhancement of existing prime sites for breeding waders and restoration or proactive management of sites which are currently unsuitable. Canoeing routes and infrastructure have been identified in this area therefore in order to minimise the potential for conflict specific efforts should be made in this area to engage with canoeists and canoeing organisations;
- B. The general location encompassing Humphrey's Island and Ferney Island, Devenish Island, Trasna Island and Car Island (existing breeding wader islands). This area also has a concentration of Magnificent Meadow sites with a number of snipe and lapwing records for the area. It is considered that the islands and the broader countryside within this general area should be targeted for enhancement of existing prime sites for breeding waders and restoration or proactive management of sites which are currently less suitable for breeding waders;
- C. The general location encompassing Rabbit Island South and Inishmacsaint (both existing breeding wader islands) and Owl Island (potential breeding wader island). There is a high concentration of Magnificent Meadow sites within this area and there exists a significant opportunity to build on relationships built through this scheme. However, there are also a number of canoeing infrastructure points identified in this area therefore in order to minimise the potential for conflict specific efforts should be made in this area to engage with canoeists and canoeing organisations;
- D. The general area around Castle Caldwell including the islands of Muckinish and Rosscor (both existing breeding wader islands). This area is also a wildfowling refuge and encompasses a number of Magnificent Meadow sites. Therefore, this area is considered to be suitable for enhancement of existing prime sites for breeding waders and restoration or proactive management of sites which are currently in improved grassland; and
- E. The general location around Boa Island Road including Boa Island (site of LEWC breeding wader restoration site), Hare Island, Lusty More Island, Crunnish Island, White Island (existing breeding wader islands) and Estea island (potential breeding wader island) and also including Castle Archdale Wildfowling refuge and a number of Magnificent Meadow sites. This general area should be targeted for enhancement of existing prime sites for breeding waders and restoration or proactive management of sites which are currently unsuitable. There is a high concentration of canoe and water skiing sites in this general location therefore in order to minimise the potential for conflict specific efforts should be made in this area to engage with relevant organisations.

Species	LELP Locations
Golden Plover	The Northern Irish population may be less than fifteen pairs and is found within the LELP area on Pettigo Plateau SAC/SPA/ASSI.
Sandwich tern	This species usually breeds at coastal locations on islands and undisturbed promontories but a unique inland breeding colony in the LELP area. See islands as identified on Figures 9.8 and 9.9.
Greenland white-fronted geese and whooper swans	Upper Lough Erne SPA is designated because of its population of wintering whooper swans and flocks can be found throughout the winter months across the LELP area Pettigo Plateau SPA is designated for its wintering flock of Greenland White-fronted Goose.
Two species are grouped here as potential flagship species which the LELP is or could be potential stronghold for the species. 1. White-tailed eagle 2. Garden warbler	<ol style="list-style-type: none"> <li>1. Individual white-tailed eagle have been recorded consistently over the past ten years on Lough Erne within the LELP area. Having recently been seen flying over Enniskillen, it is hoped that this species will breed in the LELP area within the next few years.</li> <li>2. Within LELP garden warbler is found most easily at Crom Estate though it is also present on several islands of RSPB's Lower Lough Erne Islands Reserve and some mainland sites close to the lough</li> </ol>



## LELP Action

LELP should seek to support conservation effort for golden plover at its core location in Pettigo Plateau through liaison with NIEA and RSPB. Conservation efforts to be supported could include:

- Establishment of good working relationships with landowners Management and restoration of habitats across the designated area to enable improved breeding opportunities for golden plover.

LELP should seek to support conservation effort for terns at the core island locations as shown on Figures 9.8 and 9.9, through liaison with RSPB and NIEA. Conservation efforts to be supported could include:

- Protection of core breeding areas;
- Management and restoration of habitats outside the core areas to enable potential expansion of terns; and
- There is occasional canoe and water skiing activity in this general area therefore in order to minimise the potential for conflict specific efforts should be made in this area to engage with relevant organisations.

LELP should seek to support conservation effort for Greenland white-fronted geese and whooper swans at the core wintering locations through liaison with RSPB and NIEA. Conservation efforts to be supported could include:

- Protection of core wintering areas; and
- Maintenance of habitats both within and outside core areas for the benefit of Greenland white-fronted geese and whooper swans.

LELP should seek to support conservation effort for white-tailed eagle and garden warbler at their core locations through liaison with RSPB, NIEA and NT. Conservation efforts to be supported could include:

- In the event of white-tailed eagles establishing a breeding territory close liaison with RSPB, NIEA, WI, FODC, PSNI, Golden Eagle Trust, land managers and owners, and recreational organisations in order to protect the birds from disturbance.

Species	LELP Locations
Invertebrate assemblages and some selected species.	<p>Distinct and interesting invertebrate assemblages can be found in a variety of semi-natural habitats.</p> <p>Interesting invertebrate assemblages can found in semi-natural habitats throughout the LELP area. Locations considered likely to be of most interest are assemblages found in wetland, upland and bog habitats.</p> <p>Current threats to invertebrate assemblages include loss or degradation of suitable habitats mentioned above. This loss or degradation can occur through agricultural improvement.</p>

## LELP Action

LELP should seek to support conservation effort for invertebrate assemblages in general, but some specific actions to address a gap in invertebrate data are listed below:

- Liaise with NIEA, Buglife, Freshwater Habitats Trust, Butterfly Conservation NI and CEDaR for an overall strategy to address the gap in invertebrate data;
- In consultation with partners and relevant organisations, support citizen science projects to address the gap in invertebrate data throughout the LELP area;
- Surveys should have a particular focus on those habitats which are under pressure through either intensification or neglect, including wetlands such as lake shores and running water where survey can help with assessment of water quality;
- Use charismatic species such as dragonfly or damselfly to encourage new recorders; and
- For freshwater invertebrates, encourage landowners, particularly farmers and private landowners to create ponds, where appropriate, on their land.

LELP should seek to support conservation effort for specific invertebrate species as below. These actions are considered likely to benefit wider invertebrate assemblages.

### A. Small amber snail

- Habitat creation, restoration and maintenance measures such as appropriate grazing and scrub clearance to maintain suitable site characteristics and regrading of slopes in abandoned quarries to expose fresh sediment and create new habitat;
- Perform targeted surveys to improve mapping coverage and knowledge of the species; and
- Monitor selected semi-natural sites in the LELP area.

### B. A cuckoo bumblebee *B. campestris*

- Survey suitable sites to locate extant populations and, if any are found, ensure the population is maintained; and
- Maintain suitable habitat for the host species *B. pascuorum*.

### C. A ground beetle *C. clatratus*:

- Maintain the number of viable populations of the species; and
- A comprehensive survey of the shorelines of Upper Lough Erne from Enniskillen to the Border;

### D. Marsh fritillary

- Liaison with Butterfly Conservation Northern Ireland (BCNI) to support implementation any actions arising from survey and planning currently underway for the NI marsh fritillary population;
- Liaison with DAERA, BCNI and landowners to support with implementation of any relevant measures contained within the newly proposed NI Environment Farming Scheme (EFS); and
- Liaison with DAERA and BCNI to support co-ordination of surveying of sites within the new EFS scheme.

### E. Dingy skipper:

- Support the monitoring and management of sites where the species has been recorded;
- Support specific locations where BCNI is carrying out management;
- Support implementation of the Northern Ireland Habitat Action Plans for Limestone Pavement and Calcareous Grassland; and
- Support the maintenance of the number of viable populations of the species.



Species	LELP Locations
Irish hare	<p>The wide distribution of semi-natural grassland and good quality hedgerows mean that Irish hares are widely distributed in the LELP area.</p> <p>Threats to this species include intensification of farming practices, loss of daytime resting sites, particularly rushes and good quality hedgerows, and hare coursing. In the LELP area it is considered that a loss of good quality hedgerows, in-combination with a potential abandoned or intensification of areas of semi-natural grassland will result in adverse impact on the local hare population.</p>

Plant assemblages Particular locations within the LELP area which have been identified as being particularly important for rare or protected plants or interesting plant assemblages, are listed below with some of the rarer species from each site:

**Upper Lough Erne**

Knockninny the limestone outcrop and hazel woodland - Yellow Bird's-nest in woods, Dense-flowered Orchid, Pyramidal Orchid and Small-white Orchid on summit grassland - Bird-sown Small-leaved Cotoneaster is becoming a serious threat to both the woodland and grassland on Knockninny;

Upper Lough Erne islands and reedy bays for Great Water-parsnip, Cowbane, Flowering-rush, Tufted-sedge, Frogbit and Arrowhead;

Corraharra Lough, Crom - botanical treasure trove, primarily for its emergent vegetation, but also for its sedge-rich marshy areas and submerged pond weeds;

Corraslough Point - wet meadow with Irish lady's-tresses;

Crom Estate - oak woods in which have been found Bird's-nest Orchid, Toothwort and Common Wintergreen, Ivy Broomrape and blue-eyed grass; herb rich parkland/wet grassland and

Derrymacrow Lough, Crom - wet woodland including adder's tongue, marsh fern, elongated sedge and cyperus sedge.

## LELP Action

A Northern Ireland Species Action Plan was published in 2000 and All Ireland Species Action Plan was published in 2005. Relevant proposed actions from both documents which LELP can support are:

- The preparation and distribution of material to relevant land owners and managers containing information and management advice about hares;
- The carrying out of a base-line survey to determine the current population of the Irish hare in the LELP area;
- The carrying out of repeat surveys throughout the LELP area at intervals of 3-5 years;
- The passing of information gathered in surveys to CEDaR;
- Working with partners to inform FODC planners of potential for Irish hare in locations throughout the LELP area so that inappropriate land management or development;
- Working with NIEA and other partners to encourage public participation in appropriate survey work i.e. citizen science projects, and encourage the reporting of incidental sightings to relevant bodies;
- Promoting the production of public identification leaflets to aid ability to tell the difference between Irish hares, brown hares and rabbits; and
- The coordination of efforts to conserve this species within the LELP area in-combination with conservation of species that have similar habitat requirements i.e. curlew and marsh fritillary, and of habitat action plans that would aid conservation of Irish hare i.e. Lowland meadow, Upland heathland, Purple moorgrass and rush pasture, Lowland heathland, Lowland Raised Bog, Species-rich hedgerows, Blanket Bog, and Lowland wood-pasture and parkland.

Plant species and assemblages are vulnerable to impacts throughout the LELP area. LELP should seek to support adequate survey in advance of any development, project or plan being implemented in a particular area. Those areas identified here are of particular interest and effort should be made to educate the public and landowners and help ensure that adequate management is carried out at these locations to manage or restore these sites.

Actions for conservation of plant species within the LELP area should focus on:

Regular monitoring of identified important areas for plants and those areas where NI priority species have been recorded, including:

- Knockninny;
- Upper Lough Erne islands;
- Corraharra Lough;
- Corraslough Point;
- Crom Estate;
- Derrymacrow Lough;
- Carrickreagh;
- Devenish Island;
- Namafin;
- Bess Island;
- Roscor Viaduct;
- Cladagh River Glen;

Species	LELP Locations
Plant assemblages (cont'd)	<p><b>Lower Lough Erne</b></p> <p>Carrickreagh - bird's nest orchid, yellow bird's-nest and Thin-spiked Wood-sedge;            Devenish Island;            Namanfin – Ivy Broomrape;            Bess island - Wood Vetch;            Roscor Viaduct - Bee Orchid; and            Cladagh River Glen – Toothwort, Bird's-nest Orchid, Shady Horsetail.            Castlecaldwell Forest – Irish Whitebeam; Yellow Bird's Nest</p> <p><b>Magho cliffs</b></p> <p>Semi-natural woodland: this is the site with the highest number of woodland species in Northern Ireland; and            Yellow Saxifrage at the cliff base, where the rocks are crumbling and wet, and shady horsetail in open places. Mossy saxifrage, Welsh Poppy along the cliff along with interesting Hieracia (Hawkweeds), including Hieracium basalticola.</p> <p><b>Pettigo Plateau</b></p> <p>Most extensive area of lowland blanket bog in Northern Ireland with pool and hummock areas with the three species of Sundew and Pale Butterwort in bog habitat.</p> <p><b>Tullylough</b> – Cranberry.</p> <p><b>Castle Coole</b> - The parklands are important for their ancient trees which support a wealth of associated species, particularly mosses, lichens and invertebrates. Greater Butterfly-orchid, Bird's-nest Orchid, Broad-leaved Helleborine            Green Loughs at Fardrum - northern Bedstraw, Pond Water-crowfoot, Fine-leaved Water-dropwort, Bladder-sedge, Water-plantain.            Beagh Big - dry limestone meadow with a great variety of species. Yellow Oat-grass and typical dry meadow species.</p> <p>In general            Stream and river banks are always worth exploring, especially if they are wooded;            Small patches of woodland, especially on limestone; and            Substantial hedges with early-purple orchid and sanicle grown in the shade at the base.</p> <p>Bridges            Scarford Bridge, near Colebrook - Wild Marjoram.</p>



## LELP Action

- Magho Cliffs;
- Pettigo Plateau;
- Tullylough;
- Castle Coole;
- Green Loughs at Fardrum; and
- Beagh Big

In consultation with NIEA, BSBI and relevant partners and landowners, for the below NI Priority Species LELP should seek to support the following actions:

1. Maintain viable populations of the species at recently recorded sites;
2. Restore populations at recently recorded sites if further surveys indicate a loss from the area;
3. Monitor all sites to ensure that optimal site management is being achieved and to determine whether viable populations are being maintained; and
4. Raise awareness of the following species among volunteers, botanists, professional conservation workers:
  - Killarney fern;
  - Soft hornwort;
  - Marsh stitchwort;
  - Yellow bird's-nest;
  - Chaffweed;
  - Irish whitebeam;
  - Great water-parsnip;
  - Tubular water-dropwort;
  - Irish eyebright;
  - Fen bedstraw;
  - Elongated sedge;
  - Blue-eyed-grass;
  - Green-flowered helleborine;
  - Irish lady's-tresses;
  - Lesser butterfly-orchid;
  - Frog orchid; and
  - Dense-flowered orchid.

Species	LELP Locations
Fish populations	Fish populations in the LELP area are described in section 6.7.6.

## LELP Action

LELP should seek to support conservation effort for fish populations as per below:

- Support the gathering of solid integrated scientific information on the fish populations of the lake and inflowing streams, which currently is very poor, patchy, difficult to interpret and under pressure from intensive farming and industrial pollution;
- Support a study focussed on the genetic of the LELP area fish populations and would focus on the following questions:
  - What contribution (if any) has salmonid stocking had on the fish stocks?
  - Has stocking affected the genetic integrity of wild salmonid populations?
  - Are there genetic differences between trout originating in the feeder streams?
  - Are there any barriers preventing gene flow in the system?
- Liaise closely with AFBI, DAERA Inland Fisheries, Lough Erne Anglers, Erne Rivers Trust to identify the future needs of the lough erne system in retaining native and recreational fisheries of Lough Erne basin;
- In addition to liaising with DAERA/AFBI regarding the implementation of proposals in the Erne Fishery Management Plan, seek to support DAERA/AFBI in the actioning of proposals in the FMP;
- Liaise with AFBI/DAERA re the implementation of proposals in the Erne Fishery Management Plan, in particular:
  - Seek to support effective enforcement programme through involvement of volunteers;
  - Seek to support a rounded education of anglers which would also include knowledge of wider conservation issues;
  - In consultation with AFBI/DAERA seek to support the improvement of fisheries habitat, removal of fish barriers and/or improvement of fish passage at barriers in the tributaries of the Erne Catchment;
  - Liaise with AFBI/DAERA so that LELP and partners are aware of up-to-date scientific analysis and any proposals for changes in stocking policy; and
  - Scientific data on fish stocks is lacking therefore LELP should seek to support initiatives such as citizen science projects aimed at increasing data collection of fish stocks in the LELP area.

Species	LELP Locations
Lichen assemblages and specifically the lichen <i>Strigula lateralis</i>	Lichen populations in the LELP area are described in section 6.7.3.
Bryophytes	NI Priority species are present at the Cliffs of Magho and Pettigo Plateau represents a large expanse where a variety of <i>Sphagnum</i> species can be found. Interesting assemblages of bryophytes can however be found throughout the LELP area in wetlands and woodlands.



## LELP Action

LELP should seek to support conservation effort for lichen populations as per below:

- Support survey for lichens at the following habitat types:
  - Bare rock surfaces – which are often entirely covered by lichens;
  - Mountain tops – where they are often abundant and diverse;
  - Stone walls and graveyards –important, and easily accessible lichen habitats;
  - Tree bark;
  - Peat bogs;
  - Periodically submerged margins of lakes and rivers; and
  - Soil or rock contaminated with heavy metals.
- Specifically, for the lichen *Strigula lateralis*:
  - Attempt to refind this lichen species and pinpoint its location through liaison with specialist surveyors;
  - Monitor to ensure the population is maintained;
  - Support the development of specialists in lichen identification and conservation; and
  - Have specimen material of all lichen priority species reported from Ireland held for reference in Belfast and Dublin herbaria.

LELP should seek to support conservation effort for bryophyte populations, in consultation with NIEA and the BBS, as per below:

- Support survey for bryophytes at the following habitat types:
  - Wetlands including bogs;
  - Limestone outcrops (especially north facing); and
  - Woodlands.
- Support the appropriate survey prior to development.

A4



Figure 9.3 | Freshwater Crayfish Opportunities



A4

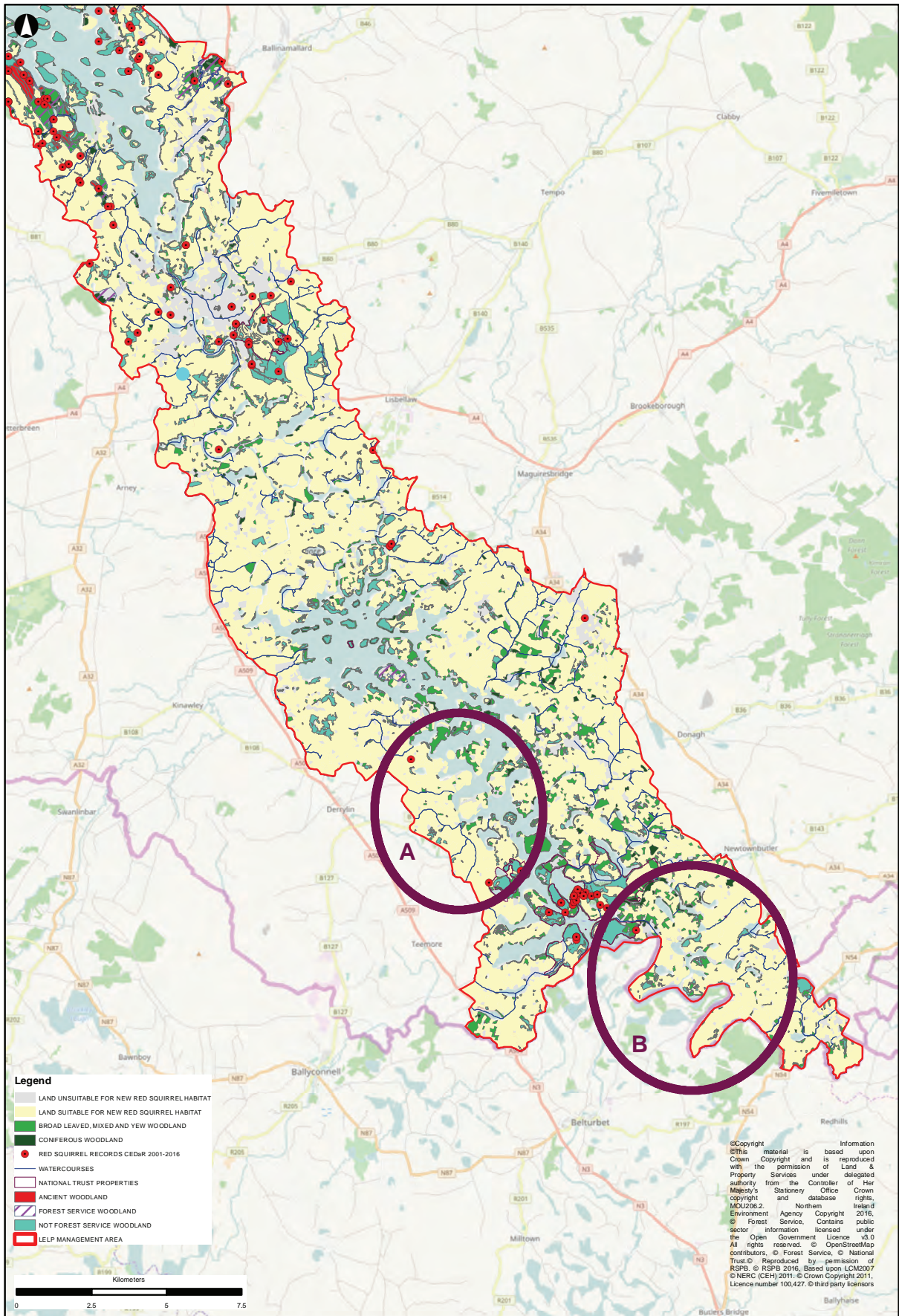


Figure 9.4 | Red Squirrel Opportunities South







A4

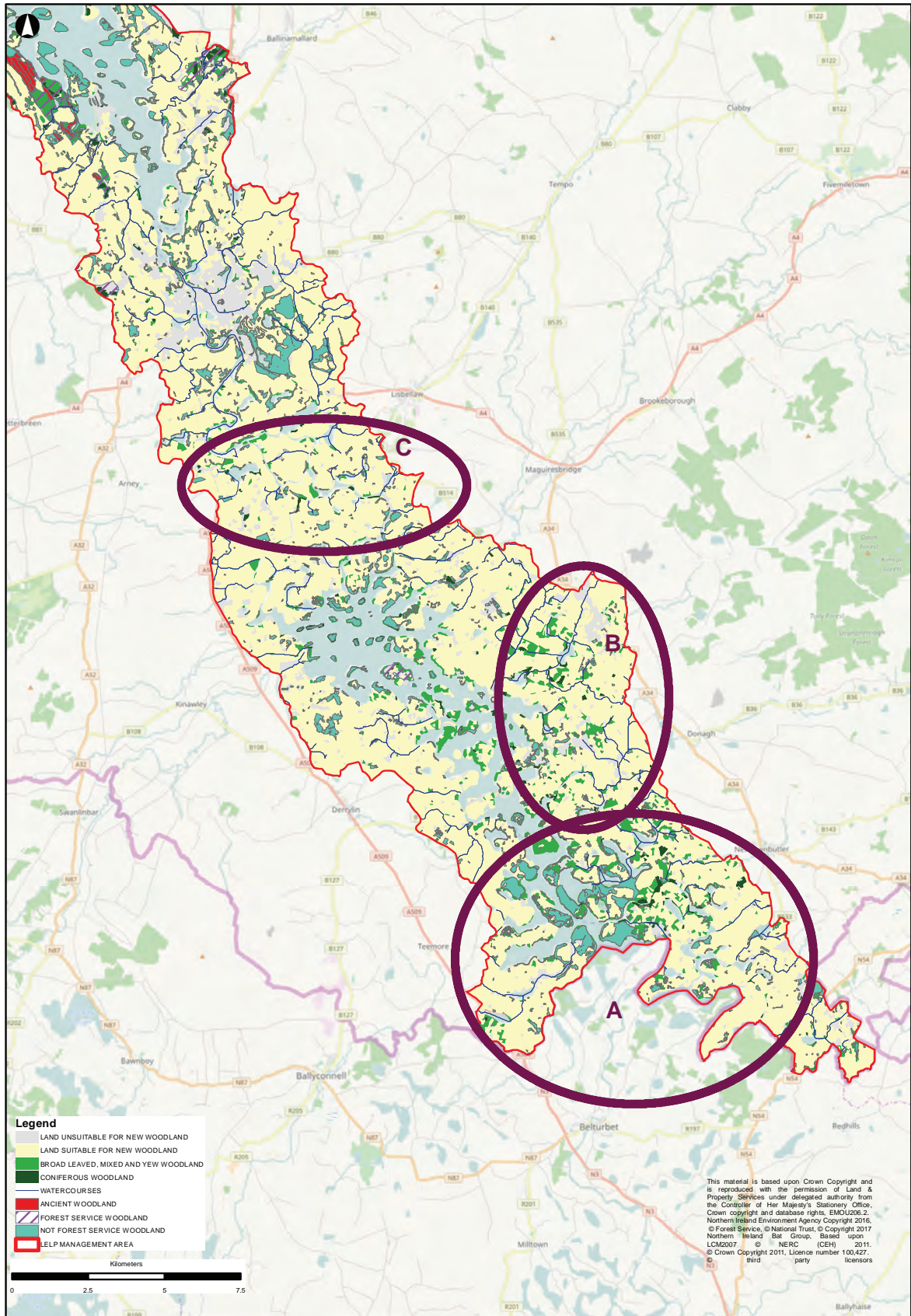


Figure 9.6 | Bat Opportunities South



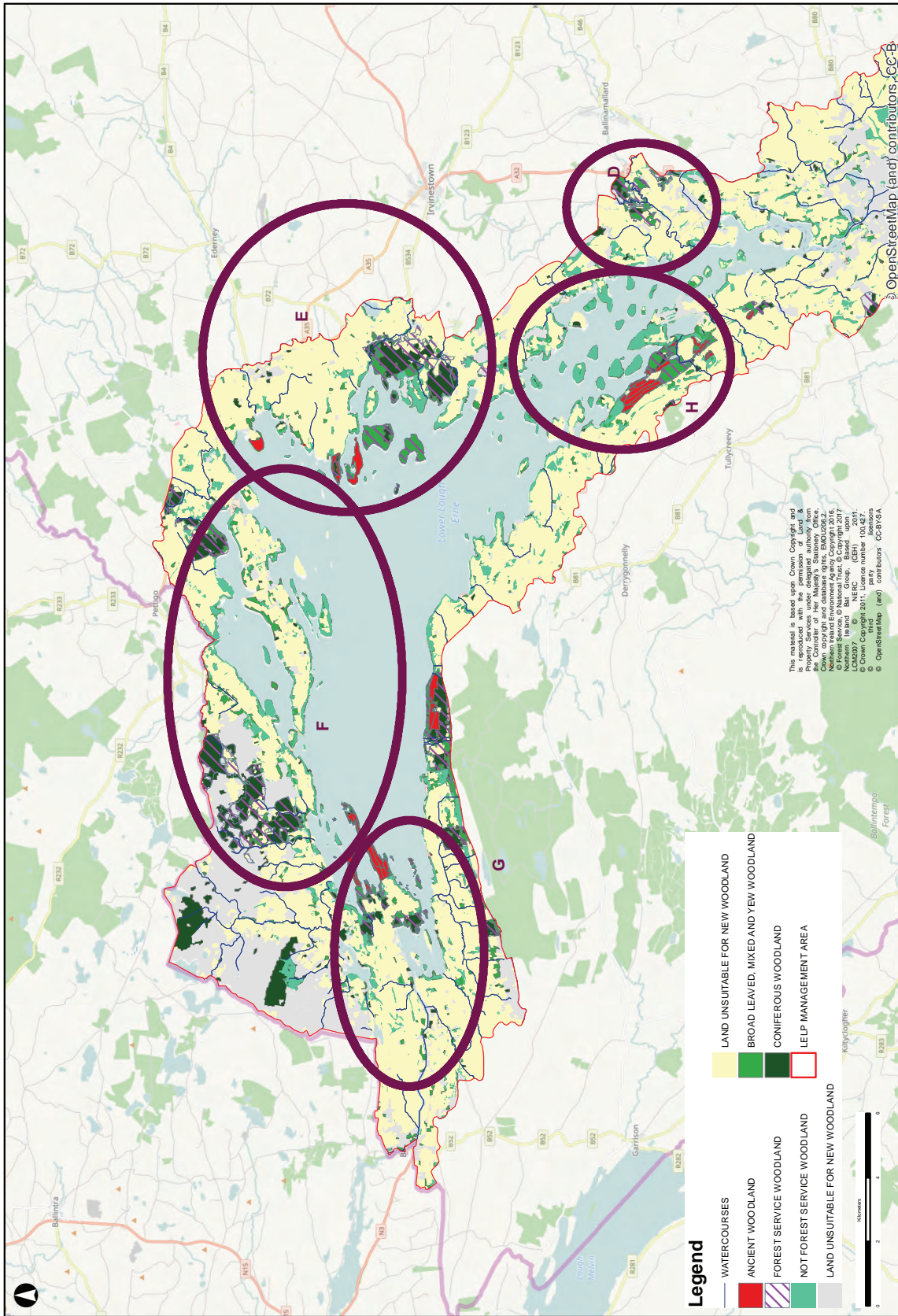


Figure 9.7 | Bat Opportunities North

A4

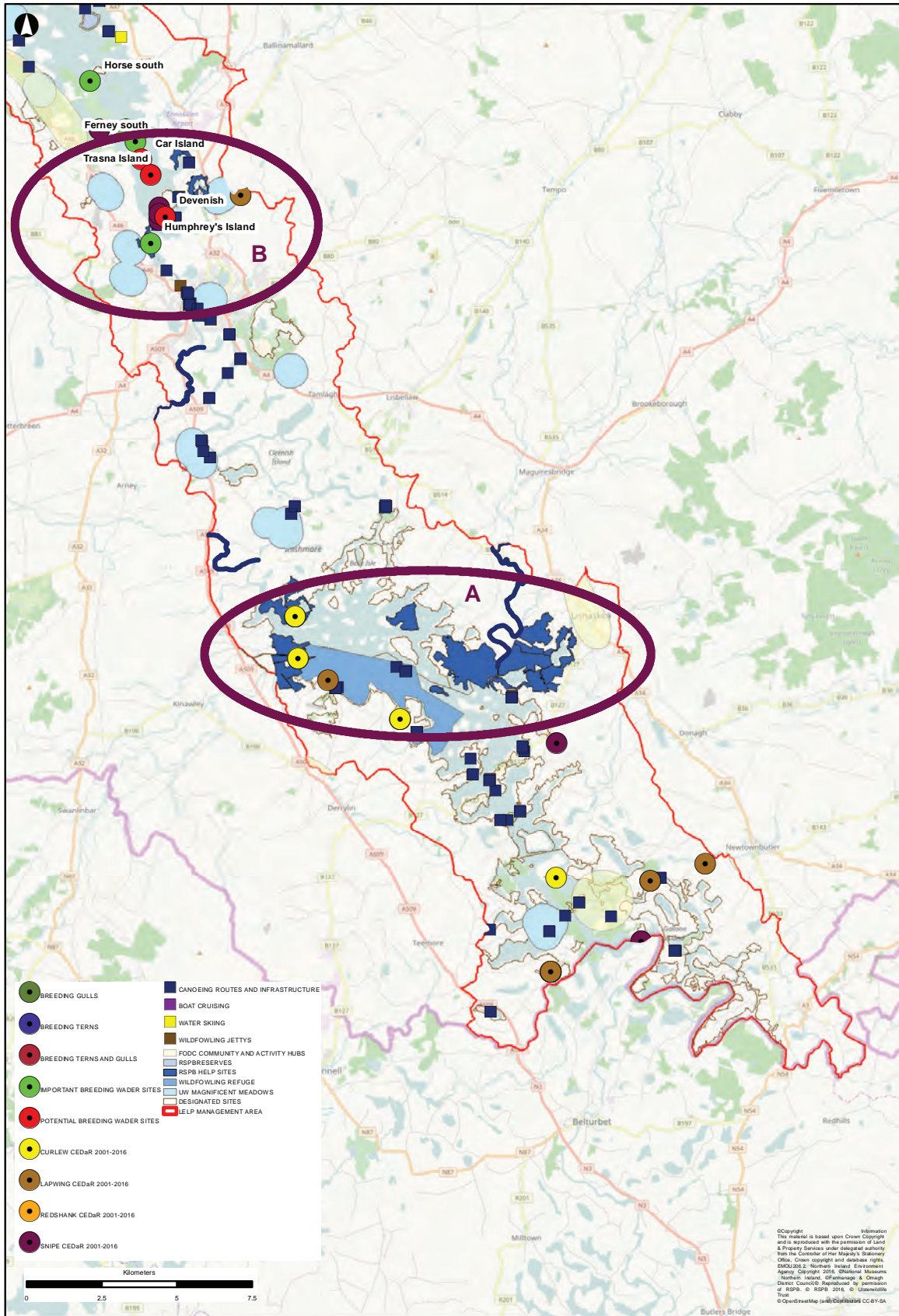


Figure 9.8 | Breeding Wader Opportunities South



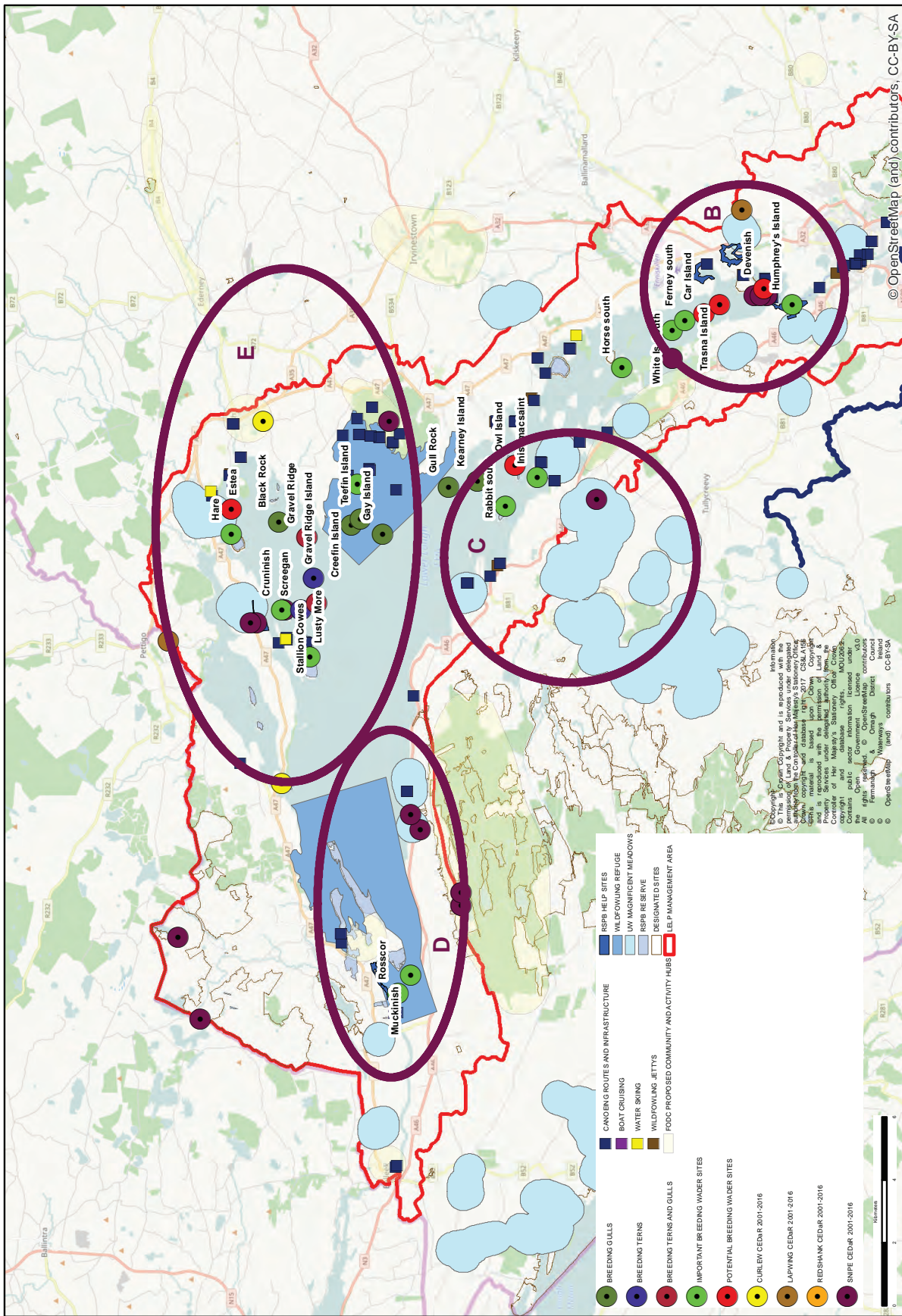


Figure 9.9 | Breeding Wader Opportunities North



#### **9.3.4 Invasive Species and Diseases**

Invasive Species have been identified by a number of partners as the most significant issue that warrants a multi-organisational, landscape management approach. In order to address the issue of invasive species close collaboration on how to address these species is necessary. These species range from terrestrial/riparian plants such as Japanese knotweed, terrestrial animals such as grey squirrel and American mink, aquatic plants such as Nuttall's waterweed, aquatic animals such as zebra mussel and diseases such as ash dieback. A coordinated approach to the management or eradication of these species is necessary and will involve all land owners and managers, those with statutory responsibilities for invasive species and those voluntary organisations which seek to promote biodiversity.

Liaising with the Invasive Species Team in NIEA, Invasive Species Ireland, the FRSG, and other relevant organisations LELP should seek to support survey, research, mitigation and education relating to the species and diseases in Table 12.

**Table 12 | Non-native Invasive Species and Diseases**

Species	LELP Locations
Himalayan balsam and Japanese knotweed	There is a concentration of records for H. balsam along rivers around the eastern side of Lower Lough Erne with records, particularly north of Enniskillen and around Kesh. Although these are not likely to be the only locations for this species within the LELP area these public records can be used to identify source locations. The pathway for this species is along running waterbodies through wind then water dispersed seed with all waterbodies considered to be sensitive receptors.
Invasive aquatic species and diseases including Nuttall's waterweed, signal crayfish and crayfish plague, zebra mussel	These species and diseases are distributed throughout the waterbodies of the LELP area.
Grey Squirrel	This species has been distributed throughout the LELP area in suitable habitat.
American Mink	This species is distributed throughout the LELP area in suitable habitat.
Ash Dieback	Ash dieback has been identified in a number of locations throughout the LELP area. Specific 1km grid squares where the disease has been found are identified on Figures 9.1 and 9.2.

## LELP Action

In order to assess where LELP can contribute towards the long-term control or management of invasive species within the LELP area, the locations, method of transfer and receiving environment will need to be understood. This is widely known as the source-pathway-receptor model, and can be understood by taking an example of one of the below non-native species, Himalayan balsam.

In order that management actions to remove a non-native invasive species such as H. balsam is effective, then a co-ordinated management regime is necessary which includes all land managers in the catchment. If, for example control of an area of H. balsam is carried out on lower order streams downstream in the catchment without a knowledge of the potential for sources upstream then this may be a wasted exercise.

It is considered that mapping of these species could be suitable citizen science project and/ or including schools involvement.

LELP should seek to support control of these and other terrestrial species in a co-ordinated manner on a landscape scale as isolated management can often produce inadequate results.

LELP should seek to support aquatic invasive species and disease control and eradication where possible. In particular, the following should be promoted:

- Support the education of water users so that bio-security and best practice guidance to prevent further spread to unconnected waterbodies are put in place. Codes of Practice and best practice guidance has been developed, through the Invasive Species Ireland Project, for water users and marina managers which can be found at:
  - <http://www.invasivespeciesireland.com/cops/>
- Inland Fisheries Ireland have produced information on bio-security measures for angling equipment and boats. This information can be found online at:
  - <http://caisie.ie/wp-content/uploads/2010/07/Biosecurity-for-Angling-Equipment.pdf>; and
  - <http://www.fisheriesireland.ie/Invasive-Species/biosecurity-protocol-for-field-survey-work.html>

LELP should seek to support recommendations as outlined in the section relating to red squirrel.

LELP should highlight issues caused by this species and facilitate discussion around options for more organised control.

In July 2013 DARD and DAFM developed a joint control plan known as the “All Ireland Chalara Control Strategy”. Its aims were to contain and eradicate the disease, to minimise the risk of the disease spreading, and to make a case for EU legislation to recognise Northern Ireland and the Republic of Ireland as pest free areas. Due to developments in the spread of the disease this is no longer a viable strategy. For example, where the current strategy set operational objectives to contain and eradicate the disease, this is no longer achievable, although other agreed objectives may still be worth pursuing, including support for research on disease modelling and disease resistance; encouraging industry, landowners, voluntary organisations and wider public to identify the disease and promote better bio-security; and making plans to live with the disease.

Highlight advice is being prepared on the management of individual trees in the landscape and hedgerows which will be placed on the web page when finalised. <https://www.daera-ni.gov.uk/articles/ash-dieback>.

LELP should seek to support the control of ash die back with a primary focus on awareness, surveillance and reporting whilst also seeking to survey and control in those locations identified on Figures 9.1 and 9.2.



## 9.4 Access to Nature / Ecotourism / Recreation

Specific recreational trails, access routes and honeypot sites are shown on Figures 8.1, 8.2, 8.3 and 8.4. The following underlying concepts and ideas for promotion of the natural environment can be used to enhance and increase access to nature where appropriate:

- Selling huge natural capital in a sustainable way;
- Event and local engagement and improve facilities around key Activity and Community Hubs;
- Local people and services need to be informed;
- Local tourism guides require training;
- More promotion locally and in NI, UK, ROI & beyond; and
- Get local politicians to ‘adopt a species’ - e.g. make one councillor the ‘Curlew Champion’.

Increased recreation in the area should however be assessed on an ongoing basis and the cumulative effect of opening up a number of locations for development should be assessed with each proposed project associated with LELP. It is often the little noticed incremental effect of individual developments within an area which have a negative effect on the landscape character of the area. It is therefore important that development sites are not seen and analysed in isolation.

## 9.5 Training

LELP should seek to support the following types of training, events, awards or methods of encouraging new nature recorders:

- Creation of a LELP wildlife recording, survey and monitoring group;
- Creation of a LELP Conservation Volunteer Group to deliver conservation management across the area;
- Traditional practices;
- Junior Rangers<sup>23</sup>;
- LELP Nature Young Presenter Award<sup>24</sup>;
- Connecting young people, family involvement etc. with nature;
- Magnificent Meadows - new outreach officer and targeting young farmers;
- Facebook/Twitter/Instagram - increased use will engage people more; and
- Replacement of NIEA educators which have been discontinued in recent years.

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23 See Cairngorms example at <http://cairngorms.co.uk/caring-future/education-learning/projects-for-schools/junior-rangers/>

24 See Cairngorms example at <http://cairngorms.co.uk/cabinet-secretary-reveals-cairngorms-nature-young-presenter-2017/>

## 9.6 Key Indicators

Listed below are a series of key indicators which LELP should seek to encourage the monitoring through close liaison with partners:

- Increase in proactive nature conservation;
- Sites brought into active management for nature conservation;
- New management plans for sites;
- Increase in volunteer nature conservation work (recruitment and awareness raising campaigns implemented by all partners, and as a consequence of support to establishment of new volunteer groups where absent) – measured by number of volunteer hours per year (this can be translated to a cash value based on Volunteering England guidance);
- Secure additional reserves under partner management – areas of priority should be to link sites and develop connections across the landscape;
- Measure increased areas of particular habitats under active management;
- Increase the level of consultation for future developments with a listed (non statutory) set of natural conservation bodies who have a detailed knowledge of the area, as well as statutory consultee's; and
- Number of records entered through CEDaR or on <http://www2.habitas.org.uk/records/home>.

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# Appendix A

## Annotations Spreadsheet

## West Lower Lough Erne

Map Ref	Narrative
1	<p><b>WI Proposals for Belleek Recreational Area</b>            New walkway linking pottery to Marina            Improved watersports infrastructure in Marina            Improve access and signage to water access            Examine potential for Erne gateway building - now vacant</p>
2	NIEA manage shoreline - DAERA owned
3	<p><b>Lergan ASSI</b>            Fertiliser and grazing pressure in this area as a particular problem at this site            Ongoing management of grassland            Magnificent meadows potential</p>
4	<p><b>Potential WI Blueway site</b>            Camping/glamping            Canoe cage            Path refurbishment</p>
5	<p><b>Workshop identified</b>            Educational possibilities in this area but private meadows</p>
6	<p><b>Workshop identified</b>            Finn Lough private accommodation + outdoor facility            Outdoor recreation opportunities in "Inner Bay" inside Boa Island</p>
7	Famine Stairs
8	<p>WWII sites            Wildfowlers Bird hides</p>
9	Potential development of access to forest
10	Static caravan park
11	WI jetty
12	Jet ski-ing area
13	Forestry / WI hub
14	<p><b>WI proposal</b>            Create 1.5km walking trail across island            Beachfront exits for canoes</p>
15	WI jetties
16	<p>Castlecaldwell Forest - RSPB Reserve Site            Large diverse forest both commercial and PAWS            Ancient woodland restoration ongoing            Educational opportunities through RSPB, FODC and Magnificent meadows            F&amp;ODC managed recreation  <b>WI Identified:</b>            Castlecaldwell future recreational area - site of area needs to be increased - Note:            currently there is a canoe trail around this area and islands</p>
17	<p><b>WI Identified</b>            It is noted that access onto Boa Island is difficult by boat (rocky shore and shore exposed from wind)            Location of Janus figure from shore or land is difficult + hard to find            Fishing = boats activity - VIP for Lough Erne            Fishing activity on Lower Lough Erne makes up a huge component of boating activity on Lower Lough Erne</p>
18	WI Identified proposed future recreational area



19	<b>WI Identified</b> Boa island proposed canoe trail
20	Belleek is an important trout fishing town - established fishing rights exist from Belleek along the river out to Roscor viaducts
21	<b>WI Identified</b> Speed restricted - quiet zone
22	<b>WI Identified</b> Belleek - Castlecaldwell canoe trail
23	<b>WI Identified Proposed Recreational Area</b> Mini canoe trail - Erne paddlers Derrygonnelly Fishing Club Toilets + shower block always locked up Roscor - private zone! Magho Park - now forestry land talks of actual harbour slipway + harbour
24	Exposed shore/lake
25	Lusty More - RSPB Reserve Site Walkway and link to built heritage
26	Private island
27	Fishing clubs
28	Important trout fishing area
29	<b>WI Identified</b> Belleek to Magho Canoe Trail
30	Rosscor - RSPB Reserve Island Highest density of breeding waders 2016; predator fence
31	Crunnish Island ASSI - RSPB Reserve Island Ongoing management of grassland Recommended that field visits from boat only March - July Recommended that access be promoted to alternative islands e.g. Lusty Beg
32	Hare Island ASSI One of best sites, NI, All Ireland, UK for breeding waders <90 pairs 2016 Recommended ongoing management of grassland
33	Magheramenagh ASSI Earth science educational opportunities and geology tourism opportunities
34	Pettigoe Plateau SAC/SPA/ASSI <b>LELP workshop 2016 recommended:</b> 1. Restoration of open habitats; and 2. That private landowners be encouraged to enter agri-environment schemes. The workshops also identified that FODC are beginning to develop recreation in the area, that a possibility for magnificent meadows development exists and that open habitat restoration is planned by Forest Service  <b>NIEA Condition Assessment (2005) recommended that:</b> 1. Appropriate grazing regime be sought across the site; and 2. MOSS* agreements be sought to target the removal of rhododendron through appropriate control mechanisms. * The Management of Sensitive Sites (MOSS) scheme was a voluntary scheme administered by NIEA (formerly EHS) designed to create positive management of lands within Areas of Special Scientific Interest (ASSI). MOSS agreements could include land adjacent to ASSI's as well as within.

35	<p>Cliffs of Magho ASSI</p> <p>Ash Woodland was the only habitat classified as Unfavourable within the NIEA Condition Assessment report (2013). Recommended management was to fence the woodland with specific areas given by NIEA.</p> <p>LELP workshop 2016 identified:</p> <p>Magnificent meadows are below and across the road and of potential for educational use</p> <p>FODC walk along the top</p> <p>Potential for recreational development</p>
36	<p>Lowery Farm - RSPB Reserve Site</p> <p>High quality hay meadow</p>
37	<p>Muckinish - RSPB Reserve Site</p> <p>Key site for breeding waders; Pine Marten recorded; predator fence</p>
38	<p>Screegan - RSPB Reserve Site</p> <p>Alternative site for breeding terns</p>
39	<p>Stallion Cowes - RSPB Reserve Site</p> <p>Alternative site for breeding terns and gulls</p>
87	<p>Inishturk - RSPB Reserve Site</p> <p>Considered to be one of the most important sites in NI for lichens</p>
40	<p>Estea - - RSPB Reserve Site</p> <p>Potential breeding wader island</p>

## East Lower Lough Erne

Map Ref	Narrative
45	<p><b>WI Identified</b></p> <p>Potential activity hub            Scope for 2.5 mile walk            Castle needs improvements            Canoe boat yard craft shed now a gin factory            B grade recreation all area            Private slipway at Tully            Day boats Tully            Castle Archdale hub            Drumcrew Kingfishers picnic tables            Fishing club - holiday homes            Known power boat area Tully Castle walking trail - potential stop off/canoe            Tullyboy/Tully castle possible activity hubs</p>
46	Identified old shooting lodge
47	Identified WI Jetty
48	Identified access path proposal from jetty up to church
49	Identified significant potential for canoe trail development in this area
50	<p>Identified potential to connect Lisnarick Village to Lake Castle Archdale with walkway and cycle trail linking Lisnarick to the Lough.            Also identified millennium woodlands in existence at this location.</p>
44	<p>Identified location to improve local access            Potential to access this historic location but liaison with landowners needed</p>
42	Identified FODC managed recreation area
41	Identified location for potential walkways
51	<p>Castle Archdale            Activities at this location include:            Pony trekking from the FS            Identified as an area that could be use more by schools            Crevinishaughy Island - White Island - Inishmore Castle Archdale canoe trail            No public jetty</p>
43	Identified graveyard
52	Identified existing walkway at Muckcross Edgewater Marina
53	WI identified walkway which may be restricted/difficult as in private ownership and therefore close landowner liaison needed
54	<p><b>WI Identified</b>            Known recreational area</p>
55	<p><b>WI Identified</b>            Sunken boat/barge land bridge needs to be formalised if access to Inishmacsaint is to be formalised/agreed onto private lands</p>
56	<p><b>WI identified</b>            Carrickreagh Bay - Lough Erne Resort canoe trail</p>
57	<p><b>WI identified</b>            Castlehume Jetty - Right of Way from road to jetty</p>
58	WI managed jetty

59	White Is. South - RSPB Reserve Island Key site for breeding waders Pine Marten recorded Public right of way from WI public jetty
60	Fishing stands
61	<b>WI identified</b> Recreational access
62	<b>WI identified</b> Trory - Narrow lane = limitation
63	Devenish - Killyhevlin canoe trail
64	Caravan Park and Marina at Ballinderry which has planning. The park is out of view of Devenish.
65	<b>WI Identified</b> Dry Dock owned by Portora School. Sailing Club development. Hugh Poore training school. Portora Sea Scouts- Scouts Sailing Enniskillen Canoeists use Sillies and Arney
66	Portora Recreational Area
67	Beagh Big ASSI Educational opportunities through Magnificent Meadows Potential for agri-environment scheme
68	Fardrum & Roosky Turloughs <b>Workshops identified:</b> 1. the potential for agri-environment measures for site improvement; and 2. the need to work with the local quarry NIEA Condition Assessment in 2004 recommended: <b>For Fardrum and Green Loughs</b> 1. Investigate current grazing regime and fertiliser application rates (both inorganic and organic); and 2. Seek a MOSS agreement with landowners to ensure that fertiliser inputs and grazing levels are reduced; 3. Identify alternative sources of drinking water to ensure cattle do not poach turlough vegetation; 4. Review of grazing pressures and if cattle still tend to concentrate in the turloughs, then further stock control may be necessary (e.g. electric fencing); 5. Need for further research into water supply mechanisms; and 6. Water chemistry analysis essential to identify whether eutrophication is significant and whether reduced nutrient inputs in the catchment are producing significant results in terms of water quality. For Roosky Lough 1. Control of scrub encroachment around the edge of the water-body would be desirable (but see above re stock control); 2. Identify mechanisms for re-introducing grazing; and 5. Need for further research into water supply mechanisms.
69	Horse Island ASSI Key RSPB island for breeding waders. Pine marten recorded.
70	Paris Island Big ASSI Breeding Grey Heron



<b>71</b>	Gravel Ridge Island ASSI Breeding sandwich tern and common tern Himalayan Balsam still present 2 v small clumps destroyed in 2016
<b>72</b>	RSPB Reserve Island Alternative site for breeding terns and gulls
<b>73</b>	Ferney south - RSPB Reserve Island Key site for breeding waders
<b>74</b>	White Is. North - RSPB Reserve Island Key site for breeding waders Predator fence State Care Monument Link to built heritage
<b>75</b>	Rabbit south - RSPB Reserve Island Key site for breeding waders Largest population of lesser black-backed gulls
<b>76</b>	Owl Island - RSPB Reserve Island Key site for restoration for breeding waders
<b>77</b>	Goat Island - RSPB Reserve Island To be maintained as diversifying woodland The shore of Goat Island is prime breeding waders site and marsh fritillary site Potential for educational opportunities as demonstration sites exist
<b>78</b>	Car Island - RSPB Reserve Island Formerly breeding waders suffering form lack of appropriate management Great restoration potential
<b>79</b>	Trasna Island Formerly breeding waders suffering form lack of appropriate management Great restoration potential
<b>80</b>	Inishmacsaint Recreational opportunity to improve public access and signage Potential link to built heritage
<b>81</b>	Inishmakill NNR Potentially woodland management needed NIEA used to mow a path through the island for the public which could be reconsidered
<b>82</b>	Namanfin - Ulster Wildlife reserve featuring Ivy Broomrape Foal grazing and sycamore issues on this island Some potential for educational opportunities but recreational opportunities are not likely

## Enniskillen

Map Ref	Narrative
<b>83</b>	<b>WI Identified</b> Blueway proposals to improve access to island and improve signage
<b>84</b>	Devenish Local Nature Reserve FODC proposed cycleway and walkway Potential to expand size of WI amenity area to include new FODC cycle/walkway proposal Potential for this and other sites around Enniskillen to improve use for access, education, citizen science and volunteering in general
<b>85</b>	Cleenish Island WI Identified proposed spiritual trail / canoe trail WI Identified possible provision of jetty on island WI Identified need for signage and interpretation Paddling trail "Cleenish Island Loop"
<b>86</b>	WI Identified existing recreation area
<b>87</b>	WI advise need for canoe steps onto WI jetties at Devenish Island which would promote easier access by canoes onto this and other historical sites of attraction
<b>88</b>	WI advise of potential future recreational area with potential for new sailing clubs and other activities.
<b>89</b>	<b>WI Identified</b> 'Water activity hub' recreational area - Castle Coole - Enniskillen Castle "Trail Head"
<b>90</b>	Sillies River - used by canoe clubs
<b>91</b>	Boating recreational area - boating / ski-ing
<b>92</b>	Arney river also used by canoe clubs as river trip location
<b>93</b>	WI Identified boat recreational hub
<b>94</b>	Banagher ASSI Agri scheme potential
<b>95</b>	Castle Coole ASSI NT Property Agri scheme potential Educational and recreational opportunities at this site
<b>96</b>	Devenish Island ASSI Curlew Issues with access and public behaviour Potential education programme Better communication needed for exploration Annual monitoring needed
<b>97</b>	Mill Lough ASSI Limited educational opportunities Good public access Good fishing

<b>98</b>	Upp Lough Erne - Belleisle ASSI Himalayan Balsam control needed Potential to reduce diffuse nutrient pollution through agri schemes in catchment Stock should be fenced from oak woodland Selective scrub reduction in targeted areas Elimination of fertilisers within the ASSI
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99	Humphrey's Island RSPB Reserve Island Key breeding wader site
100	Swift colony in Enniskillen - extension of colonies, public engagement - extend distribution
<b>Upper Lough Erne</b>	
101	<b>Naan Island WI Blueway</b> Proposed provision of pathway on island Forest service own 2/3 of island
102	<b>WI Blueway</b> Proposal to build walkway from lake to Lisnaskea
103	<b>Share Centre</b> Potential for looped walk & nature trail.
104	<b>Crom Demesne</b> Potential to expand for recreational use Natural play area, toilet facility, Issue - paying into park (inhibits public access)
105	Good semi-natural non-designated land under agri-pressure.
106	Carrybridge / Inishmore looped canoe trail
107	<b>WI Proposed Recreational Zone</b> Potential to include or exclude Knockninny Hill / Hill walk / pathway - existing beach, toilets, jetty, hotel, quay, facilities at hotel. Existing recreational hub with scope for expansion/increased recreational activity.
108	<b>WI Identified</b> Possible recreational site which is used by boats a lot.
109	<b>Kilmore Quay</b> Small boats and canoes
110	<b>WI Identified</b> Future recreational / boating fisherman - fisheries - canoeing loops - focus on quiet / tranquil recreational activities
111	Crom to Belturbet Blueway - 10km



# Appendix B

## EU Directives

<b>DIRECTIVE</b>	<b>HOW IMPLEMENTED IN NI</b>
<p><i>Habitats Directive</i></p> <p>Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora</p>	<p>The Conservation (Natural Habitats, &amp;c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.</p>
<p><i>Wild Birds Directive</i></p> <p>Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds</p>	<p>In the UK, the provisions of the Birds Directive are implemented through the Wildlife (Northern Ireland) Order 1985; the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985; the Conservation (Natural Habitats, &amp;c.) (Northern Ireland) Regulations 1995 (as amended), the Offshore Marine Conservation (Natural Habitats &amp; c.) Regulations 2007 as well as other legislation related to the uses of land and sea.</p>
<p><i>Invasive Species Regulations</i></p> <p>EU Regulation 1143/2014 on Invasive Alien Species</p>	<p>The Regulation came into force on 1 January 2015.</p>
<p><i>Strategic Environmental Assessment Directive</i></p> <p>Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.</p>	<p>The Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 (Statutory Rule 2004 No. 280)</p>
<p><i>Environmental Impact Assessment Directive</i></p> <p>Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment</p>	<p>The requirement for EIA arises from Directive 85/337/EEC as transposed by The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999.</p>
<p><i>INSPIRE Directive</i></p> <p>Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community</p>	<p>The INSPIRE Regulations 2009</p> <p>The INSPIRE (Amendment) Regulations 2012</p>
<p><i>Water Framework Directive</i></p> <p>Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy</p>	<p>The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003 (Statutory Rule 2003 No. 544)</p>
<p><i>Revised Bathing Waters Directive</i></p>	<p>The Directives are implemented in Northern</p>

DIRECTIVE	HOW IMPLEMENTED IN NI
<p>Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC</p>	<p>Ireland by The Quality of Bathing Water Regulations (Northern Ireland) 2008.</p>
<p><i>Floods Directive</i></p> <p>Directive 2007/60/EC on the assessment and management of flood risks</p>	<p>The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009</p>
<p><i>Groundwater Directive</i></p> <p>Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration</p>	<p>To enable the objectives of the Water Framework Directive to be met requires the transposition of measures into national law. These are implemented in Northern Ireland through The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003.</p>
<p><i>Marine Strategy Framework Directive</i></p> <p>Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy</p>	<p>In the UK, the MSFD will be transposed through the Marine Strategy Regulations 2010 under Section 2(2) of the European Communities Act (1972)</p> <p>Implementation of the programme of measures is expected to be coordinated, for waters in England, by the Marine Management Organisation, and through equivalent bodies in Scotland, Wales and Northern Ireland.</p> <p>In 2012, the UK produced Part One of the Marine Strategy, containing information on the first three elements of the MSFD. In 2014, Part Two which focuses on a co-ordinated monitoring programme for the ongoing assessment of GES, was published. Part Three is in development and will focus on a programme of measures.</p>
<p><i>Maritime Spatial Planning Directive</i></p> <p>Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning</p>	<p>Member States must transpose the Directive into their national legislation by 2016 and nominate the Competent Authority in charge of the implementation of MSP. Member States must also draw up their national maritime spatial plans by 2021. They are free to tailor the content of the plans and strategies to their specific economic, social and environmental priorities, and their national sectorial policy objectives and legal traditions, but must respect the minimum requirements of the Directive.</p>
<p><i>National Emission Ceilings Directive</i></p> <p>Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain Atmospheric pollutants</p>	<p>Analysis of compliance is undertaken every year and presented in the EEA's NECD status reports (latest version 2014). The UK has met its targets for all four pollutants for all years since 2010 inclusive (data is currently available to 2013). A number of Member States have failed to meet</p>

DIRECTIVE	HOW IMPLEMENTED IN NI
	their NECD targets for NO <sub>x</sub> , NMVOC and NH <sub>3</sub> .
<p><i>Renewable Energy Directive</i></p> <p>Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC</p>	<p>National Renewable Energy Action Plan for the United Kingdom</p> <p>It should be noted that, while energy in Great Britain is generally a reserved matter for the UK Government, many of the mechanisms to help deploy greater levels of renewables are matters for Devolved Administrations. The UK Government is working closely with the Devolved Administrations in Wales, Scotland and Northern Ireland who have a key part to play in meeting our overall target. The Devolved Administrations are keen to increase the use of renewable energy.</p>
<p><i>Air Quality Framework Directive</i></p> <p>Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe</p>	<p>Air quality is a devolved matter, though the UK government leads on international and European legislation. The administrations in Northern Ireland (Northern Ireland Air) are responsible for its own air quality policy and legislation. Part IV of The Environment Act 1995 sets provisions for protecting air quality in the UK and for local air quality management.</p> <p>The Air Quality Standards Regulations (NI) 2010 transpose into NI law the requirements of Directives 2008/50/EC and 2004/107/EC on ambient air quality.</p> <p>The National Emission Ceilings Regulations 2002 transpose into UK legislation the requirements of the National Emission Ceilings Directive (2001/81/EC).</p> <p>The Northern Ireland Environment Agency regulates the release of pollutants into the atmosphere from large and complex industrial processes. They also regulate emissions from some large-scale food processing factories and pig and poultry rearing activities.</p>
<p><i>Environmental Liability Directive</i></p> <p>Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage</p>	<p>The Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland) 2009</p>
<p><i>Integrated Pollution Prevention and Control (IPPC) Directive</i></p> <p>Directive 2008/1/EC of the European</p>	<p>Pollution Prevention and Control Regulations (Northern Ireland) 2003</p>



<b>DIRECTIVE</b>	<b>HOW IMPLEMENTED IN NI</b>
Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control	
<i>Environmental Noise Directive</i>  Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise	Environmental Noise Regulations (Northern Ireland) 2006
<i>Industrial Emissions Directive</i>  Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).	In Northern Ireland IED was brought into effect by the Pollution Prevention and Control (Industrial Emissions) Regulations (Northern Ireland) 2013.
<i>Urban Waste Water Treatment Directive</i>  Council Directive 91/271/EEC concerning urban waste-water treatment	The UWWTD is transposed in Northern Ireland by The Urban Waste Water Treatment Regulations (Northern Ireland) 2007.
<i>Sewage Sludge Directive</i>  Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture	The Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990
<i>Mining Waste Directive</i>  Directive 2006/21/EC of the European Parliament and of the Council on the management of waste from the extractive industries	Member states are required to ensure that an inventory of closed facilities, including abandoned waste facilities which may cause serious negative environmental impacts is drawn up and periodically reviewed. DAERA has compiled an Inventory of closed waste facilities in Northern Ireland with the assistance BGS and GSNI.
<i>Waste Framework Directive</i>  Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste	The Waste (Amendment) Regulations (Northern Ireland) 2013
<i>Carbon Capture and Storage Directive</i>  Directive 2009/31/EC on Geological Storage of Carbon Dioxide	Implemented as part of the Energy Act 2013
<i>Landfill Directive</i>  Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste	The requirements of the Landfill Directive were transposed through the Landfill Regulations (Northern Ireland) 2003, the Waste and Emissions Trading Act 2003 and the Landfill Allowances Scheme (Northern Ireland) Regulations 2004 (as amended).
<i>Waste Electrical and Electronic Equipment (WEEE) Directive</i>  Directive 2012/19/EU of the European	Recycling of WEEE is a specialist part of the waste and recycling industry. It is a rapidly growing sub-sector due largely to the

DIRECTIVE	HOW IMPLEMENTED IN NI
<p>Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)</p>	<p>implementation of the original WEEE Directive in the UK by the WEEE Regulations 2006, With that came the associated requirements for the recovery, reuse, recycling and treatment of WEEE. The Waste Electric and Electronic Equipment (WEEE) Regulations 2013 became law in the UK on the 1st of January 2014 and replaced the 2006 Regulations. The new Regulations transpose the main provisions of Directive 2012/19/EU on WEEE which recasts the previous Directive 2002/96/EC. These regulations also provide for a wider range of products to be covered by the Directive with effect from 1st January 2019.</p>
<p><i>Large Combustion Plant Directive</i></p> <p>Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants</p>	<p>The Large Combustion Plants (National Emission Reduction Plan) Regulations 2007</p>
<p><i>Nitrates Directive</i></p> <p>Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources</p>	<p>On January 1st, 2007, new legislation came into operation in Northern Ireland introducing measures to improve the use of nitrogen and phosphorus nutrients on farms. Its goal is to reduce the amount of nitrogen and phosphorus level in water coming from agricultural sources. The nitrogen legislation was updated in 2010 with the Nitrates Action Programme 2011 – 2014. The Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 are still the applicable legislation for all Northern Ireland farmers.</p> <p>The NIEA document Nitrates and Phosphorus Regulations 2007 Summary provides a useful summary of the Regulations between 2007 and 2010. The document highlighted the key measures that must be followed to meet the standards of the Regulations.</p>
<p><i>Free Movement of Citizens Directive</i></p> <p>Directive 2004/38/EC of the European Parliament and of the Council of 29 April 2004 on the right of citizens of the Union and their family members to move and reside freely within the territory of the Member States</p>	<p>In the UK, the directive is transposed into the Immigration (European Economic Area) Regulations 2006 amended by SI 2009/1117 and by SI 2011/1247.</p>
<p><i>Posted Workers Directive</i></p> <p>Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 concerning the posting of workers in the</p>	<p>Implemented by a wide variety of laws, mainly at the UK level.</p>

DIRECTIVE	HOW IMPLEMENTED IN NI
framework of the provision of services	
<p><i>Freedom of Access to Information Directive</i></p> <p>Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC</p>	<p>The Environmental Information Regulations 2004 provide public access to environmental information held by public authorities. The Regulations do this in two ways:</p> <ul style="list-style-type: none"> <li>• public authorities must make environmental information available proactively;</li> <li>• members of the public are entitled to request environmental information from public authorities.</li> </ul> <p>The Regulations cover any recorded information held by public authorities in England, Wales and Northern Ireland.</p>
<p><i>REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulations</i> entered into force on 1st June 2007</p>	<p>The enforcement regime for REACH has been implemented by the REACH Enforcement Regulations 2008. These Regulations apply to the UK and provide for the enforcement of REACH.</p>
<p><i>Common Agricultural Policy</i></p>	<p>In NI the accredited Paying Agency is the Department of Agriculture and Rural Development (DARD), now under DAERA.</p> <p>DAERA may delegate certain functions to other bodies, but is responsible for accounting for all payments under CAP schemes.</p>
<p>Common Fisheries Policy</p>	<p>After over three years of negotiations a new CFP came into force on 1 January 2014.</p> <p>It includes commitments to eliminate discards and decentralise decision making away from Brussels. It also has legally binding requirements to set fishing rates at sustainable levels. With decentralised decision making, member states can work together to agree which detailed measures are appropriate for their shared fisheries.</p> <p>Department of Agriculture and Rural Development (DARD), now DAERA, manages fisheries in NI waters. Defra works with DAERA to agree a UK position for negotiations in the EU.</p>





# Appendix C

## LELP Area Natural History Recorders

- S L Brakey
- C E Partridge and E W Brown
- Charles Langham
- J E R Allen
- Robert Desmond Meikle
- John McKay Moon
- Brian Nelson
- Hannah Northridge
- Robert Northridge
- Rev Dr Andre D O'Beirne
- John Phillips
- Robert Lloyd Praeger
- Tim Rich
- Ian Rippey
- John Rutty
- Dr Alan Cooper
- Maura Scannell
- Dr Robert Scott
- Rev Prof R W Smith
- T O Smith
- Rev William Babington Steele
- Nick Stewart
- Samuel A Stewart
- W N Tetley
- Matthew Tickner
- Dr Walter Wade
- S Warnock
- Tony Waterman
- W W West
- Richard Weyl
- Shaun Wolfe-Murphy

# Appendix D

## List of Designated Sites

**Natura 2000 Special Area of Conservation Sites**

Site Name	Site Code	Qualifying Features	Site Description
Upper Lough Erne	UK0016614	<p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion alvae</i>)</p> <p>Otter <i>Lutra lutra</i></p>	<p><b>Upper Lough Erne SAC: Freshwater Summary</b></p> <p>A total of 26 sites were surveyed in the Upper Lough Erne SAC, with upper Lough Erne itself being split into four separate areas based on the ASSI units of Belleisle, Trannish, Crom and Galloon. Only four of the loughs within the SAC (Mill Lough, L. Doo, Derrykerrib L., and Castle L.) were considered to be in “favourable” condition and these were all placed within the “at risk” category. These sites are considered to be at significant risk of future deterioration, with eutrophication, and invasive species being the principal threat. It should be stressed that these four sites are considered to be exceptional in terms of their aquatic flora and overall habitat and therefore attain favourable status. All of them however have at least one feature that could otherwise result in them being unfavourable. Mill Lough for example exceeds the guideline limit for <i>E. canadensis</i>, but this species appears to have been stable and there has been no loss of species from the site since the NILS work in 1988. The site is also stocked by DCAL with c.10000 rainbow trout – an alien species, which although clearly having economic benefits, is nonetheless an alien species and should inherently be avoided (Stoke <i>et al.</i> 2004). Mill Lough does however have an exceptionally rich aquatic flora including 8 species of <i>Potamogeton</i> and some relatively rare taxa e.g. <i>P. filiformis</i> and <i>Chara rudis</i>. In light of this and favourable chemistry of the site (a rarity in the ULE SAC) the site is considered to be in favourable condition. Similarly Castle L, L. Doo and Derrykerrib all have favourable chemistry and while none pass on all features there is no evidence of recent deterioration and hence are considered favourable. It is strongly recommended that these sites are regularly monitored, and where possible actions are taken to reverse any further deterioration if they are to maintain their current status.</p> <p>The remaining 22 sites were all classified as unfavourable within the CSM guidelines (JNCC 2005). The majority failed due to having high nutrients</p>



Site Name	Site Code	Qualifying Features	Site Description
			<p>(TP), high frequency of <i>E. canadensis</i>, (&gt;40% frequency) or because of the presence of zebra mussels (<i>Dreissena polymorpha</i>); the latter being widespread through the Lough Erne catchment. Very few of the sites actually failed due to having too few characteristic species (8 sites in total).</p> <p>While classifying the majority of the ULE SAC sites as unfavourable, it should be stressed that the site condition assessments are made only on the open water species and conditions and, beyond general comment, do not take into account the emergent and marginal wetland species. As a whole the Upper Lough Erne SAC has an extraordinary wetland flora, with over 200 species of aquatic and wetland plants being recorded (high plants and stoneworts only) including notable rarities such as <i>Lathyrus palustris</i> and <i>Alisma lanceolatum</i>. Furthermore much of this habitat covers extensive areas with hydroseres of over 150m wide recorded at some sites. Drumroosk Lough, for example, while having a relatively poor open water community, has a very broad marginal area of reed and wetland plant community and should be considered as an excellent example of this wetland habitat type.</p> <p>Upper Lough Erne itself, is eutrophic, has high densities of zebra mussels (particularly in Belleisle and Trannish regions) and many areas suffer relatively intensive motor boat traffic including personal water craft (jetskis) and water skiing as well as more leisurely motor cruisers. All areas of ULE had the requisite number of characteristic species, but these were mainly restricted to more sheltered bays where disturbance was lower and the more exposed areas rarely achieved the requisite frequency of characteristic species.</p> <p>With eutrophication and invasive species being the principal factors effecting the site condition, addressing the issues will require long-term planning. It is likely that recent agricultural improvements and rural development have had a major influence on nutrient levels within the SAC. The palaeoecological and sediment analysis presented by Davidson <i>et al.</i></p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>(2008) for Mill Lough certainly supports this, with reduced water clarity inferred for the last 50 yrs and a recent increase in sedimentation rates (assumed to be due to productivity). Nutrient sources need to be identified and wherever possible reduced. It is also recommend that additional palaeoecological assessments are made to assess more accurate baseline conditions for nutrients and species and to assess the impact of zebra mussels. Fish stocking is considered inappropriate within the SAC, but if it continues as part of the socioeconomic benefits of the region, it is suggested it would be better if restricted to sites of lower biological quality and to use only native species (e.g. brown trout). The stocking of carp or rainbow trout is unacceptable within an SAC.</p>
Pettigoe Plateau	UK0016607	<p>Blanket bogs</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i></p> <p>European dry heaths</p> <p>Natural dystrophic lakes and ponds</p> <p>Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i></p>	<p>Pettigoe Plateau is the one of the largest expanses of blanket bog in Northern Ireland. It lies between Beleek and Pettigoe to the north of the western tip of Lower Lough Erne in Co. Fermanagh. The ASSI is 1270 ha and was declared on 27<sup>th</sup> April 1994. It has been designated an SAC and an SPA. The area exhibits the full range of structural and vegetation features associated with blanket bog. These features include pool complexes, acid flushes and basin mires. The bog vegetation is characterised by luxuriant <i>Sphagnum</i> mosses and dwarf-shrubs, with associated species demonstrating a strong oceanic influence. Amongst the lakes included in the designation, several are clean soft-water types supporting a well-developed isoetid component in their aquatic vegetation.</p> <p>The site contains a number of other notably scarce plant species and is also important for birds. It provides breeding habitat for a number of species and is especially important as one of the Irish strongholds for breeding Golden Plover <i>Pluvialis apricaria</i>. In addition, amongst the over-wintering birds, Pettigoe Plateau frequently supports Greenland White-fronted Geese <i>Anser albifrons flavirostris</i>.</p> <p>Pettigoe Plateau is our most westerly example of blanket bog. It is a low altitude blanket bog, occurring from 90-180m. Westerly, low altitude blanket bogs, known as Atlantic blanket bogs, tend to be dominated more</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>by grasses and sedges than the more ericoid dominated Mountain blanket bogs. The blanket bog and heath all failed due to low levels of ericoid cover, with the blanket bog and wet heath failing on high graminoid cover. <i>Molinia caerulea</i> can replace ericoids on Atlantic blanket bogs, which may account for the low cover of ericoids and the high cover of graminoids. This high <i>Molinia</i> cover may sometimes exclude <i>Sphagnum</i> which may account, in part, for the low <i>Sphagnum</i> cover.</p> <p>Both the blanket bog and wet heath had signs of past and current moderate or heavy grazing by both sheep and cattle. Cattle are unsuitable for grazing blanket bogs and should be excluded through management agreements. This overgrazing is one of the main causes of large areas of bare peat. This disturbance may also be contributing to the low <i>Sphagnum</i> cover.</p> <p>Evidence of past fire and auger cutting were also recorded on the blanket bog. This disturbance will have had an impact on the bare peat and <i>Sphagnum</i> cover. There was also evidence of current hand cutting at a number of locations. Turbary rights extend to 10% of the site and it needs to be checked whether this hand cutting is within the agreed area. Rhododendron encroachment was recorded at several locations. This needs to be tackled immediately to halt further encroachment.</p>
Fardrum & Roosky Turloughs	UK0030068	Turlough / Karst	<p>Roosky turlough, the southernmost sub-site, is dominated by inundation grassland, with little residual water when the site dries out. The source of water has been identified by dye tracing; the main resurgence being in the north-west of the site. Semi-natural scrub dominates the northern and western margins, while extensive blackthorn scrub occurs to the east – the latter prone to winter flooding.</p> <p>The site usually holds a small suckler herd through the summer. Fardrum and Green Lough are set in intensively managed partially reseeded</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>grassland, used for pasture but still retaining some semi-natural scrub. Water sources have not been conclusively identified for these latter sub-sites.</p> <p>Recent site investigations indicate that historical and recent quarrying has impacted on the wider hydrological system within which the turloughs sit. It appears that the turloughs continue to operate as a functional biological system.</p>
Cladagh (Swanlinbar) River SAC	UK0030116	<p>Freshwater Pearl Mussel <i>Margaritifera margaritifera</i></p> <p>Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitricho-Batrachion</i> vegetation</p>	<p>The Cladagh River rises in Cuilcagh Mountain and flows through County Cavan before crossing the border into Co. Fermanagh, where it widens and then enters Upper Lough Erne. Within County Fermanagh, the 14.88km length of river has two distinct forms. The upper half is typical of fast-flowing dynamic rivers with beds of Stream Water Crowfoot <i>Ranunculus penicillatus</i> var. <i>penicillatus</i>, whilst the lower half of the river is slow-flowing and very deeply dredged as it nears Upper Lough Erne. The river is of particular importance for its associated fauna, as it is one of the few rivers in Northern Ireland that still retains a significant and viable population of the Fresh Water Pearl Mussel <i>Margaritifera margaritifera</i>.</p>

#### Natura 2000 SPAs

Site Name	Site Code	Qualifying Features	Site Description
Pettigoe Plateau	UK004099	<p>Greenland White-fronted Goose <i>Anser albifrons flavirostri</i></p>	<p>Located to the west of Lough Derg in Co. Donegal, this site comprises an extensive complex of blanket bog, wet heath, lakes and pools in an area of low hills and broad basins. The site is designated for Greenland White-fronted Goose and is one of the few places where this species continues to utilise peatland habitats. Much of the site is designated a Statutory Nature Reserve and a Biogenetic Reserve, and is also listed under the Ramsar Convention.</p>



Upper Lough Erne	UK9020071	Whooper Swan <i>Cygnus cygnus</i>	<p>The open waters of the main lough and smaller satellite loughs contain a variety of aquatic communities typical of natural eutrophic lakes. In addition, the shallow sheltered shores support extensive swamp, fen and marsh communities. Behind the open grazed foreshore is species-rich grassland, which occasionally extends back into the old adjacent field systems.</p> <p>The site is designated for wintering whooper swan which generally utilise improved or semi-improved grassland close to water bodies used for roosting. Foraging in flooded fields and of emergent vegetation in shallower lakes is common.</p>
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#### ASSI's

Site Name	Site Code	Qualifying Features	Site Description
Mill Lough	ASSI 75	Natural Eutrophic lake	<p>Mill Lough is an inter-drumlin lake (a satellite body of Upper Lough Erne) with important wetland flora and fauna and one of only of three water bodies in NI with eight species of pondweed.</p> <p>The lough holds a species-rich assemblage of aquatic plants, aquatic invertebrate fauna (typical of a lowland eutrophic, but comparatively unpolluted, water body), ten species of dragonfly and significant numbers of waterfowl in winter. It also displays a well-developed transition from open water, through emergent swamp and fen, to carr woodland or fen meadow.</p>
Corraslough Point	ASSI 48	Purple Moor-grass and Rush Pasture Higher Plant Assemblage Breeding Birds – waders	<p>This site comprises of a number of low-lying fields on the shores of Upper Lough Erne. It is remarkable for the range of plant communities it supports and is also of value for its breeding birds. Common Reed <i>Phragmites australis</i> and Bulrush <i>Scirpus lacustris</i> dominate the water edge.</p> <p>Behind this is a Fen zone in which tall sedges such as Tufted Sedge <i>Carex elata</i> and Bladder Sedge <i>C. vesicaria</i> dominate. A wide range of other species grow here</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>including Purple Loosestrife <i>Lythrum salicaria</i>, Cowbane <i>Cicuta virosa</i>, and Yellow Loosestrife <i>Lysimachia vulgaris</i>.</p> <p>The main area of the site is mown for hay and is exceptionally species rich. The dominant plant cover are Sedges and Rushes Carnation Sedge <i>Carex panicea</i>, Glaucous Sedge <i>C. flacca</i>, Common Sedge <i>C. nigra</i> and Sharp-Flowering Rush <i>Juncus acutiflorus</i>. However a wide range of other plant species occur, including Meadow Sweet <i>Filipendula ulmaria</i>, Knapweed <i>Centaurea nigra</i>, Meadow Thistle <i>Cirsium dissectum</i>, Sneezewort <i>Achillea ptarmica</i>, Eyebright <i>Euphrasia spp.</i> and Hay Rattle <i>Rhinanthus minor</i>.</p> <p>A number of scarce plant species occur including Greater Water-parsnip <i>Sium latifolium</i>, Marsh Stitchwort <i>Stellaria palustris</i>, and Marsh Pea <i>Lathyrus palustris</i>, growing abundantly in some areas.</p> <p>A colony of Irish Lady's Tresses orchid <i>Spiranthes romanzoffiana</i> has recently been discovered on the site: this species is extremely rare throughout Europe.</p> <p>The fields also provide a suitable habitat for breeding waders. Lapwing <i>Vanellus vanillus</i>, Curlew <i>Numenius arquata</i>, Redshank <i>Tringa totanus</i> and Snipe <i>Gallinago gallinago</i> were all recorded in 1986.</p>
Belleisle	ASSI 93	<p>Oakwood Wet woodland, Purple Moor-grass and rush pastures, Fens, Reedbeds and swamps, Higher plant assemblage, Otters, Eutrophic standing waters, Breeding wader assemblage, Coot, Whooper Swan, Goldeneye, Great Crested Grebe, Heronry,</p>	<p>This site is an integral element of the Upper Lough Erne system and includes open water with wooded islands in addition to a range of associated communities ranging from swamp through fen to wet grassland/woodland. Important concentrations of species rich grassland communities exist where traditional farming methods, such as haymaking, have been maintained. The area contains many vascular plants with a restricted distribution in the British Isles. The area as a whole is rich and varied for invertebrates. It is also important for Otters and breeding waders.</p> <p>There is a diverse range of plant and animal communities, with notable transitions from open water to drier ground and important concentrations of both individual species and groups of species. A number of islands are notable for the extent and quality of species-rich grasslands. The area contains many vascular plants with a restricted distribution in the British Isles. The area as a whole is rich and varied for invertebrates. It is also important for Otters, breeding waders and significant numbers of wetland bird species.</p>

Site Name	Site Code	Qualifying Features	Site Description
		Little Grebe, Mute Swan, Pochard, Tufted Duck,	
Inishroosk	ASSI 54	Breeding wader assemblage Wet Grassland Fen	<p>The Inishroosk ASSI is entirely contained within the boundary of the Upper Lough Erne Special Protection Area (SPA). This is an area of special scientific interest because of its breeding waders and the quality of the wetland vegetation, which includes a number of uncommon plant species. The site boundary extends into the lake which is one of the finest large, shallow eutrophic lakes in Northern Ireland.</p> <p>The site has been identified as the best lowland breeding wader site in the Erne basin, and the second most important site in Northern Ireland, with 1% of breeding Snipe <i>Gallinago gallinago</i>, and nearly 2% of breeding Redshank <i>Tringa totanus</i>. Other regular breeding birds include Lapwing <i>Vanellus vanellus</i>, Curlew <i>Numenius arquata</i> and Shoveler <i>Anas clypeata</i>. Wintering birds include large flocks of Whooper Swans <i>Cygnus cygnus</i>, Wigeon and Curlew.</p> <p>The lough shore vegetation is dominated by Common Reed <i>Phragmites australis</i> and Bulrush <i>Scirpus lacustris</i>. Behind the swamp is a broad band of tall fen, in which Bottle Sedge <i>Carex rostrata</i> and Bladder Sedge <i>Carex vesicaria</i> predominate, with a wide range of associated species including Cowbane <i>Cicuta virosa</i>, Flowering Rush <i>Butomus umbellatus</i>, Greater Spearwort <i>Ranunculus linqua</i> and Water Dock <i>Rumex hydrolapathum</i>.</p> <p>The current land management of low intensity grazing and hay-making has resulted in the retention of species rich marsh and fen meadow grassland over most of the site. The species-rich marsh is characterised by the predominance of Creeping Bent <i>Agrostis stolonifera</i> and Soft Rush <i>Juncus effusus</i> over a brown moss carpet. The fen meadow consists mostly of tall sedges such as Common Sedge <i>Carex nigra</i> and Bottle Sedge.</p> <p>A number of scarce plant species occur including Greater Water-parsnip <i>Sium latifolium</i>, Marsh Stitchwort <i>Stellaria palustris</i>, Needle Spike Rush <i>Eleocharis</i></p>

Site Name	Site Code	Qualifying Features	Site Description
			<i>acicularis</i> , Buckthorn <i>Rhamnus catharticus</i> , Wood Club-rush <i>Scirpus sylvaticus</i> and Marsh Pea <i>Lathyrus palustris</i> .
Trannish	ASSI 94	<p>SAC Features</p> <p>Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>AlnoPadion</i>, <i>Alnion incanae</i>, <i>Salicion alvae</i>)</p> <p><i>Lutra lutra</i> Otter</p> <p>ASSI Features:</p> <p>Eutrophic lake Wet woodland Fens Purple Moor-grass and rush pasture Swamps Otters Invertebrate assemblage Higher plant assemblage</p>	<p>This area in the middle part of Upper Lough Erne includes the open waters of the lough, in addition to extensive, good quality, traditionally farmed and hence species-rich grasslands on base-rich gleyed soils. There are also wetland and other communities with notable transitions from open water to drier ground, with the concomitant effect of giving important concentrations of both individual species and groups of species. Trannish is an integral element of the Upper Lough Erne system which is particularly well characterised by the extent of its swamp and fen communities. There is a diverse range of plant and animal communities, with notable transitions from open water to drier ground and important concentrations of both individual species and groups of species. A number of islands are notable for the extent and quality of species-rich grasslands. The area contains many vascular plants with a restricted distribution in the British Isles. The area as a whole is rich and varied for invertebrates. It is also important for Otters, breeding waders and significant numbers of wetland bird species. The site was declared on the 9<sup>th</sup> of March 1995 and covers an area of approximately 2055.55 hectares.</p>
Dernish Island	ASSI 41	Breeding wader assemblage	<p>The Dernish Island ASSI is entirely contained within the boundary of the Upper Lough Erne Special Protection Area (SPA). The island has areas of swamp, fen and grassland and was designated because of its wetland flora and fauna.</p> <p>The vegetation on and around the island is very diverse, with well-developed areas of swamp and fen. Stands of Common Reed <i>Phragmites australis</i> and Bulrush <i>Scirpus</i></p>



Site Name	Site Code	Qualifying Features	Site Description
			<p><i>lacustris</i> at the water's edge give way to a fen zone which is particularly rich in Sedge species- Lesser Tussock Sedge <i>Carex elata</i>, Bottle Sedge <i>C. rostrata</i> and Bladder Sedge <i>C. vesicaria</i> are dominant. Other species occurring include Water Parsnip <i>Sium latifolium</i>, Flowering Rush <i>Butomus umbellatus</i>, Creeping Jenny <i>Lysimachi nummularia</i> and Marsh Stitchwort <i>Stellaria palustris</i>. The grassland behind the fen zone is also rich in plant species such as Quaking grass <i>Briza media</i> and a number of smaller sedge species such as Carnation Sedge <i>Carex panicea</i>, Glaucous Sedge <i>C. flacca</i> and Flea Sedge <i>C. pulicaris</i>.</p> <p>At designation the island also supported a high density of breeding waders, with 67 pairs being recorded in 1987. Species include Lapwing <i>Vanellus vanellus</i>, Curlew <i>Numenius arquata</i>, Redshank <i>Tringa totanus</i> and Snipe <i>Gallinago gallinago</i>. Other breeding birds recorded include Great Crested Grebe <i>Podiceps cristatus</i>, Mallard <i>Anas platyrhynchos</i> and Shoveler <i>Anas clypeata</i>.</p>
Crom	ASSI 71	<p>Eutrophic standing waters Purple Moor-grass and rush pasture Fen Lowland meadow Swamp Otter <i>Lutra lutra</i> Higher plant assemblage Invertebrate assemblage</p>	<p>The open waters of the main lough and smaller satellite loughs contain a variety of aquatic communities typical of natural eutrophic lakes. In addition the shallow sheltered shores support extensive swamp, fen and marsh communities. Behind the open grazed foreshore is species-rich grassland, which occasionally extends back into the old adjacent field systems. Alluvial woodland is found where the shoreline is ungrazed or only very lightly grazed, while occasionally the dryer soils of the drumlins behind support a natural Oak woodland; this is particularly well developed within the Crom Estate. Such diversity of good habitats and communities is reflected in the very large number of rare and notable plants and insects flourishing here: the woods being particularly important for breeding passerines and home for some notable mammals.</p>
Killymackan Lough	ASSI 76	Natural eutrophic lake	<p>Killymackan Lough, a satellite lake of Lough Erne, is a large inter-drumlin lough with a species rich assemblage of aquatic plants. The margins of the lough consist of a narrow fringe of swamp and fen with sparse carr woodland or fen meadow.</p> <p>The aquatic vegetation is dominated by extensive beds of pondweed. In fact this site is one of only three in Northern Ireland with eight species of pondweed. There are also submerged beds of stoneworts, including the nationally rare pointed stonewort. Yellow</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>water lily and spiked water-milfoil are also common in the open waters. The emergent vegetation of the lough is dominated by water horse tail and common club-rush.</p> <p>The swamp vegetation is dominated by bottle sedge and common reed. This is often backed by species rich fen in which tufted sedge is dominant.</p> <p>There are also a number of plant species with a restricted distribution in the British Isles including cowbane, lesser pond-sedge and needle spike-rush.</p>
Galloon	ASSI 90	<p><b>SAC Features</b></p> <p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>AlnoPadion</i>, <i>Alnion incanae</i>, <i>Salicion alvae</i>)</p> <p><b>ASSI Features</b></p> <p>Eutrophic lake Wet woodland Fens Purple Moor-grass and rush pasture Reedbeds and swamps Lowland meadow Otters Invertebrate assemblage Higher plant assemblage</p>	<p>This area in southern Upper Lough Erne includes the open waters of the lough, in addition to extensive, good quality, traditionally farmed and hence species-rich grasslands on base-rich gleyed soils. There are also wetland and other communities with notable transitions from open water to drier ground with the concomitant effect of giving important concentrations of both individual species and groups of species. This section of the lough is more sheltered than others, such that open waters often give way to swamp zones. Behind these are areas of sedge-dominated fen which can often be species-rich. Small amounts of wet woodland are also found with associated ground flora resembling the swamp and fen zones. The grasslands themselves exhibit variations dependent on the soils - i.e. from strongly flushed to well-drained, more acidic soils. The nationally rare Frogbit occurs frequently along with other plants which also have a restricted distribution nationally. Otters also frequent the area along with wintering wildfowl and breeding waders. The site was declared on the 2<sup>nd</sup> of February 1995 and covers an area of approximately 570 hectares.</p>

Site Name	Site Code	Qualifying Features	Site Description
		Whooper Swans and a number of additional waterfowl	
Cruninish Island	ASSI 263	Purple Moor-grass and Rush Pasture Breeding Wader Assemblage	<p>Cruninish Island is a lightly grazed drumlin island in Lower Lough Erne. The combination of topography and the related soil hydrology has resulted in a relatively complex range of grassland communities. These vary from rush pasture to fen meadow, with base-loving plants present throughout the flushed areas.</p> <p>The Purple Moor-grass and Rush Pasture occurring on the flushed slopes of Cruninish Island is described as Fen Meadow and occurs when there is free movement of water through the soil. Typical herb species associated with fen meadow vegetation include Marsh Thistle <i>Cirsium palustre</i>, Meadowsweet <i>Filipendula ulmaria</i>, Meadow Thistle <i>Cirsium dissectum</i>, Devil's-bit Scabious <i>Succisa pratensis</i>, Tormentil <i>Potentilla erecta</i>, Bog Pimpernel <i>Anagalis tenella</i> and Lesser Spearwort <i>Ranunculus flammula</i>. Sedges are abundant in this habitat and include Tawny Sedge <i>Carex hostiana</i>, Carnation Sedge <i>C. panicea</i> and Glaucous Sedge <i>C. flacca</i>.</p> <p>In the drier central area of the island Sharp Flowered Rush <i>Juncus acutiflorus</i> and Yorkshire Fog <i>Holcus lanatus</i> are frequent within the sward. The wet grassland in this area is slightly less species rich and is characterised by species such as Soft Rush <i>Juncus effusus</i>, Creeping Buttercup <i>Ranunculus repens</i> and White Clover <i>Trifolium repens</i>.</p>
Hare Island	ASSI 264	Purple Moor-grass and Rush Pasture; Breeding Wader Assemblage	<p>This area is of special scientific interest because of its breeding waders and species-rich wet grassland.</p> <p>Hare Island is a lightly grazed drumlin island in Lower Lough Erne. The island has a central ridge sloping down to the lough shore. The combination of topography and the related soil hydrology has resulted in a range of species-rich wet grasslands on the island. These vary from rush pasture to fen meadow, with base-loving plants present throughout the area.</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>The island is one of the most important sites for breeding waders in Northern Ireland. This includes redshank, snipe, lapwing and curlew. The density of nests, at over 2 per hectare, is amongst the highest recorded in Northern Ireland.</p> <p>The vegetation on the island is dominated by sharp-flowered rush, with a variety of grasses and sedges and in places is markedly species rich. This provides cover for nests and young birds. Other important factors for breeding birds are the heavy nature of the soils which remain wet even in summer and the adjoining lough shoreline, which provide an abundance of food for adults and young birds. The island is also relatively free from disturbance and predation.</p> <p>Purple moor-grass and rush pasture occurs over much of the island, with fen meadow present at the lower elevations to the west of the island. Fen meadow is a particular type of purple moor-grass and rush pasture. It occurs on Hare Island where there is a steady hydrological influence flowing through the soil which results in the occurrence of species adapted to both water movement and wetter conditions. Species characteristic of this community on Hare Island include purple moor-grass, meadow thistle, meadowsweet, lesser spearwort, devil's-bit scabious and tormentil.</p> <p>Sedges are often important components within the sward and include tawny sedge, carnation sedge, yellow-sedge, flea sedge and glaucous sedge. There is also some more pronounced base-rich flushing at the base of the slope with black bog-rush.</p> <p>On the central ridge of the island, the purple moor-grass and rush pasture tends to be less species-rich. Common species here include sharp-flowered rush, yorkshire-fog, creeping buttercup and white clover. This poorer rush pasture is prevalent throughout the eastern end of the island, where it forms a mosaic with drier more improved short turf of perennial rye-grass and crested dog's-tail pasture.</p> <p>Fringing the island's shoreline are a variety of vegetation communities that add valuable diversity to the island's habitats. A small patch of common reed swamp occurs to the east of the island growing over water horsetail. Exposed shore vegetation dominated by knotgrass occurs around the whole island, with scattered bottle sedge and</p>



Site Name	Site Code	Qualifying Features	Site Description
			<p>marsh cinquefoil fen on the northern shore. Exposed sandier shoreline substrates to the north and the east have common spike-rush and locally abundant needle spike-rush.</p> <p>The variation in hydrology and related topography, and past and present management has resulted in a considerable range of species present in a relatively small area. In addition to the species already mentioned the following species of note were recorded – cowbane, common butterwort, small water-pepper, lesser pondweed and long-leaved pondweed</p> <p>Woodland and scrub provides further diversity and adds to the conservation interest of the area. Tree and shrub species are mainly found as former field boundaries. Hawthorn is the main species with occasional downy birch and grey willow to the east with scots pine and ash around the ruins on the top of the ridge. Alder woodland is also present to the northwest of these ruins. Scattered gorse scrub forms an integral mosaic with the grasslands, particularly on the southern slopes.</p> <p>Hare Island is an area of semi-natural grassland and associated that have been managed in a traditional way. As such, it provides valuable feeding and roosting sites for a range of animals, including invertebrates such as ringlet, red admiral, painted lady and meadow brown.</p>
Larkhill	ASSI 326	Mineralogy & Metallogenesis	<p>Larkhill is a special place because of its Earth Science interest. The area provides access to important geological features.</p> <p>The exposures are mainly found in old pits that were once used by the Belleek Pottery, and as natural outcrops of rock.</p> <p>The rocks are some of the oldest in Northern Ireland; they are from the Precambrian period of Earth history and are over 1000 million years old. They were originally sand and mud rocks laid down at the bottom of an ocean.</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>Since they formed, the rocks have been changed by heat and pressure twice, but they still show some of their original features.</p> <p>Another special feature is the mineral veins of found at the site. These are the youngest features as they cut across the older rocks, and formed from the last remains of an igneous intrusion. At Larkhill, the veining is over three metres wide in some places.</p> <p>The most common mineral in the veins is a type of feldspar easily spotted by its pink colour. It is the feldspars that the Belleek Pottery was using. Other minerals such as quartz and mica are also present in abundance.</p>
Lergan	ASSI 19	Purple Moor-grass and rush pastures	Lergan slopes north to south with the southern area of the field quite flat and wet. The upper slopes of the field is of a drier rush pasture grassland type. The field is more or less bisected by what appears to be an old field boundary. Here flushing occurs and locally very species-rich stands of vegetation are seen. This is where several species of orchids are seen and small stands of Purple Moor-grass <i>Molinia caerulea</i> and Marsh Hawk's-beard <i>Crepis paludosa</i> vegetation occur. Locally, Pale Sedge <i>Carex pallescens</i> is quite abundant.
Lough Scolban	ASSI 247	oligotrophic to mesotrophic standing water with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	<p>Lough Scolban lies within a catchment of shallow peats and small areas of exposed bedrock. The water, although slightly brown, was clear enough during the survey to allow light penetration to 2.3 m, with the aquatic vegetation extending to a depth of 2.0 m. In 2006, a total of 73 macrophyte species were recorded from the lough, including 26 submerged and floating-leaved aquatics.</p> <p>Lough Scolban is classified as an “oligotrophic to mesotrophic standing water with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>”. The lough is a good example of a mesotrophic lough in favourable condition. It meets the floristic compositional targets defined within the CSM guidance (JNCC 2005), supporting five broadleaf <i>Potamogeton</i> spp. (<i>P. alpinus</i>, <i>P. gramineus</i>, <i>P. x angustifolium</i>, <i>P. x nitens</i>, <i>P. perfoliatus</i>) and seven other characteristic species: <i>B. ranunculoides</i>, <i>I. lacustris</i>, <i>L. uniflora</i>, <i>L. dortmanna</i>, <i>N. flexilis</i> agg., <i>N. opaca</i>, <i>S. angustifolium</i>. The structural targets have not been fully assessed due to the lack of boat survey data, however the lough's</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>macrophyte structure appears to be favourable. Comparison of the 1988 and 2006 species lists and TRS/PLEX scores suggests that there has been little change in species composition over the last 18 years, particularly in relation to the dominant species. The lough is large and the survey methods employed in 1988 and 2006 were different, therefore it is not thought that the differences between years are significant. The lough's mean annual TP concentration is higher than the feature type target. However it is recognised that the interaction of nutrients in brown water sites is complex, therefore elevated TP may not be indicative of unfavourable conditions - this requires further investigation. There is no other evidence to suggest nutrient enrichment.</p>
Magheramenagh	ASSI 119	Carboniferous stratigraphy	<p>The site is an abandoned quarry in an otherwise agricultural setting. The quarry is adjacent to a local A-road, and the quarry floor is becoming vegetated with scrub. The site interest lies in its outcrop of sedimentary rocks, which consists of massive to unbedded limestones, that together with its fossil assemblage, records submarine reef deposition.</p>
Cliffs of Magho	ASSI 191	<p>Ash Woodland Blanket Bog Wet heath Short/Medium fens Purple Moor-grass and rush pastures</p>	<p>This site consists of a large north facing limestone escarpment overlooking the north west end Lower Lough Erne, the unplanted dip slopes behind whose uniformity is broken by a series of smaller sandstone scarp ridges and one open water bodies located at the junction of dip slope and southern most scarp ridge. The main escarpment rises in a two step phase with the top of the lower step impart formed by the Cliffs of Magho.</p> <p>The lower escarpment slope supports an extensive broad-leaved semi-natural base-rich woodland, with the secondary scarp above supporting a mixture of grassland types. The smaller sandstone scarp ridges behind support a mixture of wet and dry heathland or broad-leaved acid woodland and scrub. The unplanted dip slopes and plains is covered by a mixture of wet heath and blanket bog depending on the depth of the peat mantle. Localised flushes and seepage channels add to the bogland diversity. In some locations where the peat mantle is very thin and the flushing water has a strong calcareous eliminate there is a profound shift from calcifugous flush vegetation to a Calcareous flush vegetation. The open water bodies is comprised of a larger mesotrophic lake, Glenereawan Lough which contains a range of aquatic macrophytes, fringing swamp, marginal tall-herb fen and inundation marshy grassland, and adjacent flushed grassland.</p>

Site Name	Site Code	Qualifying Features	Site Description
Beagh Big	ASSI 16	Species rich grassland	The area is of special scientific interest because of the richness of its grassland vegetation. In contrast to the majority of hay meadows in the region, the site is relatively dry and dominated by grasses with Red Fescue ( <i>Festuca rubra</i> ), Yorkshire Fog ( <i>Holcus lanatus</i> ), Perennial Ryegrass ( <i>Lolium perenne</i> ) and Crested Dogstail ( <i>Cynosurus cristatus</i> ) all achieving high cover values. Yellow Oat-grass ( <i>Trisetum flavescens</i> ) is frequent. There is an abundance of forbs such as Bulbous Buttercup ( <i>Ranunculus bulbosus</i> ), Yellow Rattle ( <i>Rhinanthus minor</i> ), Red Clover ( <i>Trifolium pratense</i> ), Black Knapweed ( <i>Centaurea nigra</i> ) and Lady's Bedstraw ( <i>Galium verum</i> ). Several rare or local plant species occur, including Adder's-tongue Fern ( <i>Ophioglossum vulgatum</i> ) and Cowslip ( <i>Primula veris</i> ).
Gravel Ridge Island	ASSI 319	Sandwich Tern Black-headed Gull	Gravel Ridge Island has been declared an ASSI because it supports a number of nationally important breeding seabird populations of sandwich terns and black-headed gulls. Areas holding important colonies of breeding seabirds are scarce in Northern Ireland.
Horse Island	ASSI 40	Lapwing (B) Curlew (B) Snipe (B) Redshank (B) Wader Assemblage (B)	Horse Island (32ha) is a lightly grazed drumlin island in Lower Lough Erne. Its unimproved wet grassland dominated by <i>Juncus articulatus</i> , <i>Filipendula</i> , sedges and coarse grasses provides good habitat for breeding waders. Over 60 pairs of waders – including Snipe <i>Gallinago gallinago</i> , Curlew <i>Numenius arquata</i> , Redshank <i>Tringa totanus</i> and Lapwing <i>Vanellus vanellus</i> have been recorded on the island making it one of the most important wader sites in Northern Ireland. The density of nests, at over 3 per hectare, is one of the highest ever recorded.
Paris Island Big	ASSI 282	Heron	This area is of special scientific interest because of its heronry. Paris Island Big is a steep-sided, wooded drumlin island in Lower Lough Erne. The topography of the island made it less suitable for agriculture than many of its neighbours, hence its present



Site Name	Site Code	Qualifying Features	Site Description
			woodland cover. Paris Island Big has, in the recent past, been a highly significant locality for breeding grey herons in a Northern Ireland context.
Bellanaleck	ASSI 120	Geology	One of the most important geological localities in the Carboniferous outcrop of Northern Ireland being one of only two occurrences of Waulsortian mound limestones . A diverse macrofauna includes, for the first time in Northern Ireland, a suite of trilobites that are of late Tournaisian age, some 340 million years old.
Devenish Island	ASSI 269	Breeding Waders	Devenish Island is a lightly grazed drumlin island in Lower Lough Erne. The island has a central ridge sloping to the lough shore. The combination of topography and the related soil hydrology has resulted in a range of species-rich wet grasslands on the island. These vary from rush pasture to fen meadow, with base-loving plants present throughout the area. This area is of special scientific interest because of its breeding waders and species-rich wet grassland.
Fardrum & Roosky Turloughs	ASSI 138	<b>SAC Feature :</b> Turlough <b>ASSI Feature :</b> Turlough ASSI Feature : Invertebrate assemblage not assessed	<p>Fardrum and Roosky Turloughs are the only positively identified turloughs in Northern Ireland and the most northerly in Ireland. The site was declared on 21/2/97 and is 43.1 ha in extent. These limestone lakes, which dry out in summer, support rare flora in the inundation zone such as Adder's-Tongue Fern <i>Ophioglossum vulgatum</i> and the nationally rare Fen Violet <i>Viola persicifolia</i>. The permanently wet basins within the turloughs support vegetation typical of lakes and lake shores. The turloughs are also home to a number of rare water and ground beetles: these sites have contributed nine new beetle records for Fermanagh.</p> <p>Roosky turlough, the southernmost sub-site, is dominated by inundation grassland, with little residual water when the site dries out. The source of water has been identified by dye tracing; the main resurgence being in the north-west of the site. Semi-natural scrub dominates the northern and western margins, while extensive blackthorn scrub occurs to the east – the latter prone to winter flooding.</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>Fardrum and Green Lough are set in intensively managed partially reseeded grassland, used for pasture but still retaining some semi-natural scrub. Water sources have not been conclusively identified for these latter sub-sites.</p>
Banagher	ASSI 252		<p>Banagher ASSI is a complex mosaic of wetland communities, within an area of wet grassland centred around a small basin fen with associated swamp. Banagher is botanically rich and it is particularly important as it contains the rare and threatened orchid marsh helleborine. This species is scarce in Northern Ireland and is restricted to just a handful of sites across the region. marsh helleborine is our only orchid with purplish-brown and white flowers. It is a plant of lowland marshy ground, is 10 - 40 cm in height and has one-sided flower spikes of between 4 and 20 attractive flowers.</p> <p>Associated species to be found within Banagher reflect the elevated base (alkaline) status and include grass-of-Parnassus, broad-leaved cottongrass and yellow sedge.</p> <p>There is an area of fen meadow present which is characterised by meadow thistle, purple moor-grass and devil's-bit scabious. There is also an area of fen dominated by bogbean, and swamp dominated by sedge, where marsh cinquefoil and water horsetail are common. Cowbane, greater spearwort and fen pondweed which are much less common in Ireland are also present.</p> <p>The range of vegetation types provides food and shelter for a range of animals including birds and invertebrates.</p>
Castle Coole	ASSI 350		<p>Castle Coole has been designated an ASSI because of its parkland habitat and associated species. Historic parklands are generally characterised by old, open-grown trees and shrubs which have significant amounts of standing and fallen dead wood. These old open-grown trees provide a specialist habitat for rare and uncommon invertebrates, lichens and fungi.</p>

Site Name	Site Code	Qualifying Features	Site Description
			<p>Oak is the dominant parkland tree species with Beech, Horse-chestnut, Ash, Hawthorn and Sycamore. There are occasional specimens of species such as Walnut and London Plane. There are also some spectacular avenues of trees including an avenue of Oak along the main entrance.</p> <p>Further diversity is provided through marginal vegetation fringing Lough Coole with species such as Common Reed and Water Horsetail. In places, this grades into areas of wet grassland with species such as Crested Dog's-tail, Sweet Vernal-grass, Quaking-grass, Carnation Sedge, Devil's-bit Scabious, Meadow Vetchling and Meadowsweet.</p>
Cladagh River	ASSI 200		SEE SAC text.
Knockninny Hill	ASSI 166	<p>Calcareous grassland</p> <p>Mixed ashwoods</p> <p>Higher plant assemblage</p> <p>Invertebrate assemblage</p>	<p>Knockninny Hill is a residual block of hard limestone from the Lower Carboniferous Age. Limestone pavement, a Karst feature of limited distribution, occurs on the summit and northern flanks of the hill which supports a rich, unimproved, limestone grassland community characterised by a short, tightly grazed sward. The site was designated in 1997 and is 62.43ha in extent. A number of notable species have been recorded including a diverse orchid population. Dense-flowered Orchid <i>Neotinea maculata</i> is present in only its second known Northern Ireland location. The well developed wood, on the steep, rocky flanks of the hill is characteristic of shallow base-rich, limestone soils. The canopy is comprised of Ash <i>Fraxinus excelsior</i> and low Hazel <i>Corylus avellana</i>. The ground flora is typically species-rich and supports a number of notable species such as Columbine <i>Aquilegia vulgaris</i>, Stone Bramble <i>Rubus saxatilis</i> and includes the very rare Yellow Bird's-nest <i>Monotropa hypopitys</i>. A series of old meadows occur on the deeper, heavier clay soils around the lower slopes of the hill.</p> <p>The area is important for butterflies and moths and several other notable invertebrates have also been recorded.</p>





# Appendix E

## Lough Erne Recreation and Tourism Opportunities

In the table below "Current Positions" and "Opportunities" for each of the locations are either as identified previously in 2011 Erne Recreational, Tourism, and Commercial Product Identification Report (\*), or have been updated with further developments as highlighted by Waterways Ireland and other interested parties. Any additions are informed by ongoing proposals and negotiations in the intervening years 2011-2017 with various stakeholders with an interest in Lough Erne, including but not limited to Fermanagh and Omagh District Council, National Trust, DAERA (previously under the function of DARD, DCAL Fisheries), Dept. of Infrastructure (now including Rivers Agency and Inland Waterways), The Forest Service and private operators and other interested parties.

**It is noted that Lower Lough Erne is a very important location for fishing within Northern Ireland. A significant component of the boating activity on Lower Lough Erne, and Upper Lough to a lesser extent, but important none the less, is comprising of boating associated with the fishing activities on the lakes.**

*\*(prepared by URS/Scott Wilson and Countryside Consultancy for Waterways Ireland in conjunction with Fermanagh District Council (now Fermanagh and Omagh District Council), Fermanagh Lakeland and Tourism and Northern Ireland Tourist Board - NITB)*

## Lower Lough Erne

<b>Portora (and including Round O area)</b>	
<p><b>Current position</b> Workboat and inspectorate base for Waterways Ireland on Lough Erne. Adjacent site formerly used as a boat club.</p> <p>Nearby Motor home/Caravan Park at Ballinderry is a new additional to the area and would help support and promote the area as a recreational hub, by increasing the attractiveness of the western shores of Lower Lough Erne to tourists.</p>	<p><b>Opportunities</b> The area (Portora and Round "O" area) has the potential to be developed as a Future Recreational Hub, with increased and recent improvements made to the Rowing club, potential for improved sailing facilities, greater access to Devenish Island and canoe trails linking the Lower Lough through Enniskillen, to the Upper Lough – in particular a trail linking Devenish, Enniskillen Castle, Castle Island, Ardhowen Jetty (Castle Coole) to the Killyhevlin Jetties is being proposed by Waterways Ireland.</p> <p>The area also has the potential to be developed further for scouting and sea scouting purposes.</p> <p>Development of public berthing to enable a visit to Portora Castle. Potential for the development of a sailing club. Consider feasibility of allowing access to view the lock – only lock on the Erne System. Investigate restoration of dry dock opposite Portora Lock as a working dry dock for public use. (Dry Dock currently the Property of Portora School)</p>
<b>Devenish Island</b>	
<p><b>Current position</b> Devenish is the most important of Lough Erne's island monasteries, founded in the 6th Century by Saint Molaise. The ruins include St Molaise's Oratory, St Molaise's Church; a well preserved 12th Century Round Tower and the later 15th Century remains of St Mary's Priory and graveyard High Cross. Two access jetties for the island and a trip boat operated by Department for Communities (DfC) Built Heritage formerly NIEA as a heritage tour. Angling stands lie on the mainland adjacent to the boat trip jetty. One of the most visited islands on Lough Erne. Famous for its Christian heritage.</p>	<p><b>Opportunities</b> Scheduled boat service from Enniskillen Opportunity to provide an enhanced experience including e.g. off-site interpretation prior to visit and guided walks of the island. (Devenish Experience) Path from West Jetty needs to be improved and maintained. Development of a joint approach to management between all involved. Provision of canoe landing steps or "add-ons" to the boating jetties would improve kayak and canoe access to the island.</p> <p>Development of a canoe Trail/Blueway linking Devenish Island, Enniskillen Castle, Castle Coole and Killyhevlin Jetties. This trail would also include stop-offs and jetty</p>

	elements around Enniskillen town, in particular at Castle Island and the facilities at the Forum.
<b>Trory</b>	
<p><b>Current position</b>  At one time main arrival point for short boat trip to Devenish Island.  Popular point for fishing with fishing jetties provided.  Proposals have been in place for an interpretative centre at the site.</p>	<p><b>Opportunities</b>  Renewal of fishing stands. Fishing shelter on shore.  Review potential for main boat trip to leave from Enniskillen to facilitate coach tour access and for offsite interpretation.  Consider toilet block/facilities block.  Information about Devenish Island.  Constraints: Narrow access road difficult for coaches Road access to lake side would require upgrading to 2 lane carriage way or improved through the provision of passing bays or a traffic light system.</p>
<b>Castle Hume (Lough Erne Resort)</b>	
<p><b>Current position</b>  Two major golf courses lie adjacent to one another on the shores of Lough Erne.  Lough Erne Resort has residential and day spa facilities and a major hotel and accommodation complex.  A public jetty was installed which had a public right of way from the jetty through the resort lands.</p>	<p><b>Opportunities</b>  Potential to link the public access jetty and right of way walk way to the Jetty and walkways at Carrickreagh Jetty.   Scope for a Blueway Trail from Castle Hume/Lough Erne Resort Jetty to Carrickreagh Jetty.</p>
<b>Carrickreagh Jetty (Ely Lodge Forest)</b>	
<p><b>Current position</b>  Jetty with access to 250 ha or mixed woodland with forest paths and viewpoints over the Lough. 3.5 km trail available from the jetty</p>	<p><b>Opportunities</b>  Promotion as a site to enjoy natural heritage. Inclusion in a Lough Erne wildlife guide or Fermanagh wildlife guide.  Traffic calming for road crossing to Carrickreagh Wood. Interpretative shelter could be provided including maps for the park.  Facilities block or modular toilet block provided at Jetty to promote increase use by Canoeists. Could also serve terrestrial trail users and potentially campers (if camping facilities were deemed feasible at this site)   Potential to form a canoe trail from Castle Hume Public Jetty to Carrickreagh Jetty. Development of Canoe Trails could be promoted alongside improved walking trails and facilities within the woodland trail network.</p>

<b>Derrygonnelly: Not within the LELP boundary - but an important nearby Community Hub that could service the LELP projects or support some of its objectives and activities.</b>	
<p><b>Current position</b>  Derrygonnelly is an attractive quiet village away from Lough Erne on the route to the Lough Navar Forest Drive and Cliffs of Magho Viewpoint.  The Field Studies Council, a long established and well known field studies provider both for schools and for adults has its only Ireland base in Derrygonnelly. The Tir Navar community accommodation base is used by the FSC for accommodation for its residential programmes.</p>	<p><b>Opportunities – as previously identified in 2011 Erne Recreational, Tourism, and Commercial product Identification Report</b>  Increase in the number of FSC open programmes for interested adults and stronger role in presenting the natural heritage of the Fermanagh area.  Derrygonnelly is close to many important nature conservation sites and could be developed as a hub for nature based visits</p>
<b>Camagh Bay Jetty</b>	
<p><b>Current position</b>  Small jetty and slipway. Toilets nearby, parking and picnic tables.</p>	<p><b>Opportunities</b>  Improve parking and amenity facilities to promote the jetty and potentially improvements to access to Inishmacsaint.   Potential for this area to be developed as a recreational hub with a particular focus on built heritage appreciation at the adjacent Inishmacsaint.   Investigate opportunities for formalised and improved access to Inishmacsaint from the land. Existing boat-bridge could be formalised.</p>
<b>Inishmacsaint</b>	
<p><b>Current position</b>  Jetty allowing access to ruins of the early Christian church of St Ninnidh established around 532 A.D. The saint is associated with other sites around the Lough including Knockninny and Ninnidh's Well.</p>	<p><b>Opportunities</b>  Potential for a water trail linking early Christian Heritage; E.g. Pilgrim/Spiritual Trail encompassing up to 14 other spiritual sites of interest throughout Upper and Lower Lough Erne.   Improve parking and amenity facilities to promote the jetty and potentially improvements to access to Inishmacsaint.   Investigate opportunities for formalised and improved access to Inishmacsaint from the land. Existing boat-bridge could be formalised.</p>



<b>Tully Bay, Sand Bay (Tully Castle Jetty) and Druncrow Jetty (Tully Bay)</b>	
<p><b>Current position</b>  Tully Bay is one of three bases for Carrick Craft Cruisers. The bay also contains Tully Bay Holiday Cottages and Druncrow Public Jetty.  There is a boatyard slipway and marina, with fuel available for boats.  Public car park.  Woodland walks from Druncrow public jetty.  (Jason's Walk)</p> <p>The area is popular with boaters and waterskiing is also popular in the summer months.</p>	<p><b>Opportunities</b>  This area is an existing activity hub and is capable of providing more visitor activity and services.</p> <p>The area is close to Tully Castle which is popular with visitors.</p> <p>Potential for shore side walk between Tully Bay and Tully Castle.</p> <p>Promotion of the area as a "mini recreational hub".</p> <p>Potential for inclusion of this area into a Blueway location/stop-off. Potential for tours of the recently developed "Gin Factory" could add to the visitor appeal to this hub.</p> <p>Potential to link the Hubs of Tully Bay and Castle Archdale, with the provision of boat rentals suitable for a cross lake traverse to either hub.</p>
<b>Tully Castle</b>	
<p><b>Current position</b>  Tully Castle is owned by DfC Built Heritage and is the remains of a fortified house and bawn dating from the early 17th Century. The gardens have been recreated and there is a visitor centre in an adjacent traditional cottage telling local stories. The public jetty close by is popular with cruisers.</p>	<p><b>Opportunities</b>  Potential to provide a service block for boaters overnighing at Tully Castle Jetty and/or improved facilities for canoeists using this site – In particular it has been suggested that semi-permanent/modular serviced toilet blocks could be placed at many of the public jetty facilities to improve the experience along the Erne Canoe Trail and proposed new "Blueways".</p>
<b>Magho Jetty and Lough Navar Forest including Cliffs of Magho Area</b>	
<p><b>Current position</b>  Rather exposed jetty giving access to shore side car park and picnic area and across the road to walks to Cliffs of Magho.</p> <p>Proposals have been put forward for improved visitor facilities at the car park.</p> <p>Proposals in place for service facilities at the Summit of the cliffs and forest walks.</p>	<p><b>Opportunities</b>  Development of the lake shore as a Future Recreational Area in combination with the existing walking trail up to the summit, but in keeping with proposals to develop certain nearby areas as nature conservation areas/wildlife meadow areas.</p> <p>Location is noted as an important area for development of Ulster Wildlife Trust "Magnificent Meadows" - so careful consideration would have to be given in design and construction of any facilities to ensure any development was built with protection of the any wildlife area in mind.</p>

<b>Lough Navar Forest (See also above Magho Jetty and Lough Navar Forest including Cliffs of Magho Area)</b>	
<p><b>Current Position</b> Lough Navar Forest contains one of the best viewpoints in Northern Ireland (1000 ft. elevation) and has a popular 7-mile forest drive. The Council and Forest Service have previously proposed a series of improvements including walking and cycling trails, disabled access to small lakes and the reinstatement of public toilets.</p>	<p><b>Opportunities</b> Current plans for trail improvements are in the process of seeking funding The development of visitor facilities at the viewpoint at Lough Navar Forest (Cliffs of Magho) including toilets and a seasonal café/interpretative centre.</p>
<b>Fermanagh Anglers Fishing facilities (Drumbad)</b>	
<p><b>Current position</b> Fishing club boathouse, slipway and access facilities. This is an area where fly fishing is popular.</p>	<p><b>Opportunities</b> Greater promotion of facilities for angling. Identify facilities required by anglers</p>
<b>Rosscor Jetty (River Erne)</b>	
<p><b>Current position</b> An attractive, quiet and sheltered transit jetty at the exit point of Lower Lough Erne. Allows boats to wait out high flows or high winds.</p>	<p><b>Opportunities</b> Could have improved shore connections to allow access to walks on dismantled railway or Belleek/Pettigo Road to Belleek, Pettigo and potentially Ballyshannon. Joint approach between Waterways Ireland and Fermanagh and Omagh District Council. Inclusion of Jetty as part of Magho-Belleek Canoe Trial, Castlecaldwell to Belleek Canoe Trail</p>
<b>Belleek Harbour/Marina</b>	
<p><b>Current position</b> An excellent facility for boaters visiting Belleek. Close to the village and allows access to all services. Toilets and car parking provided by Fermanagh and Omagh District Council, marina by Waterways Ireland.</p>	<p><b>Opportunities</b> Belleek Marina is currently undergoing a significant upgrading by Waterways Ireland. Signage to marina from the water as route to Belleek pottery. Improved signage to the Marina from locations within the town and vice versa. Potential for development of camp site and picnic facilities. The Old Belleek Sluice Keepers House (Private ownership) could potentially provide an ideal location as Heritage Accommodation or as a Bothy style accommodation similar to the Bothy on Trannish Island. It could be used by visiting fishermen and users of proposed Ballyshannon-Belleek-Castlecaldwell Canoe Trails.</p>

**Belleek****Current position**

Attractive village with all visitor services and a major visitor attraction at Belleek Pottery. This is an important tourism generator for the area.

Important area for fishing and in particular trout fishing. The area along the shore from Magho Jetty, extending into Belleek town and along the River Erne narrows in particular, are significantly important areas for fishing from a recreational perspective and also and tourism perspective and plays an important role in the economy of the area and the economy of Belleek.

**Opportunities**

Improved marketing linkages with Donegal

Sustained promotion to the coach tour and touring visitor market.

Waterbus jetty to allow boat operator to visit the pottery or to base a waterbus at the pottery.

Campsite for canoe trail and for visitors to the area.

Development as an activity hub with Ballyshannon and Assaroe

Belleek to Magho and Lough Navar Canoe trail and walking trail (to Lough Navar Forest)

The "Erne Gateway Building" in Belleek has scope for development to serve a recreational or development function either by a government body or private interest group/organisation or company.

<b>Castle Caldwell Forest</b>	
<p><b>Current position</b>  Castle Caldwell belongs to Forest Service. It has car parking, basic interpretation and walks. The shores and islands are managed by RSPB.</p> <p>The areas of and combining Bleanalung Bay and Ross harbour Bay have a boating speed restriction in place which was put in place with agreement between RSPB and Waterways Ireland in the interest of protecting the important bird life and bird habitats in the area.</p>	<p><b>Opportunities</b>  This forest has potential to provide an excellent wildlife experience but requires a higher level of visitor service.  Site should be included in a Lough Erne Wildlife Guide  Refreshed visitor shelter with interpretation  Service Block  Promotion as a destination on Lough Erne for boaters.</p> <p>Suggested Future Recreational Hub in LELP/ARUP land management conservation strategy. Scope for expansion of this recreational hub to include the forested areas and trails out along Rossergole and Gubnagole headlands. It is noted that the area is an important area for bird nesting.</p> <p>Potential for a 16km Canoe Trail around the lakeshore of Castlecaldwell.  Consultation with RSPB as to the suitability of a canoe trail around the shores of Castlecaldwell would have to be further investigated.</p>
<b>Garvary Angling Access Point (DAERA)</b>	
<p><b>Current position</b>  A car park and access point for angling</p>	<p><b>Opportunities</b>  Greater promotion of angling opportunities. Particularly fly fishing.  Facilities for anglers consistent with Enniskillen as a centre of excellence for angling, with satellite sites.  Access for anglers with disabilities.</p>
<b>Lusty Beg Island and Ferry</b>	
<p><b>Current position</b>  Attractive visitor prospect with the added attraction of being on an island and gaining access via a chain ferry.  Island cottages and swimming pool with bar and restaurant.  Activity centre for guests and corporate market. Island trail.</p>	<p><b>Opportunities</b>  Continue providing a high quality product on the island with the USP of the chain ferry and island pub/restaurant.  Investigate provision of a public jetty.</p>

<b>Lusty More Island</b>	
<p><b>Current position</b> Lusty More Island has a visitor jetty which gives access to nature walks on the island.</p>	<p><b>Opportunities</b> Promotion within a Lough Erne Wildlife Guide Stronger on-site interpretation</p>
<p><b>Boa Island</b></p> <p>The inner bay is currently not a marked navigational area, but is used by smaller boats and lower draft boats by those who know the waters well enough.</p> <p>Certain tourism facilities existing such as a boutique "Finnish Spa Resort".</p>	<p><b>Opportunities</b></p> <p>Proposed Canoe Trail around the island of Boa Island and proposed improved access to Caldragh Graveyard and the Janus Figure both from the water and from the island which is readily accessible by road via car or cycling.</p> <p>Proposed access/walking trail on the island to access Caldragh Graveyard and the Janus figure.</p> <p>Potential for linking Boa Island, Lough Derg and the many other ecclesiastical destinations on Lower and Upper Lough Erne - inclusion in a Spiritual/Pilgrim/Ecclesiastical Trail.</p> <p>Constraints: Southern Shore of Boa Islands and Lusty more islands are exposed to prevailing winds. Access and locating the Caldragh forest and Janus figure is not altogether straight forward.</p> <p>Better provision of facilities and access in the inner lake at Boa Island to service tourism facilities such as the Finnish Spa and other potential enterprises.</p>
<b>Pettigo/Tullyhommon</b>	
<p><b>Current Position</b> Quiet town with one part belonging to Co Donegal and one part County Fermanagh. Access village to St Patrick's Purgatory – Lough Derg Pilgrimage, Pilgrim's Way and to an interesting hinterland of the Pettigo Plateau and the extensive Forest Service Forests of Killeter. Lough Derg is also a popular angling lake. Pettigo has recently benefited from Peace funding of €2 million for a new community centre, walks, footbridge etc. as a result of a masterplan for the village and surrounding area</p>	<p><b>Opportunities</b> Pettigo/Lough Derg could be the starting point for a Christian Heritage trail leading throughout the Erne and Shannon corridors. Base for cycling and walking opportunities. Potential to link the village with the waterway if the navigation north of Boa Island was opened up for suitable craft with walking access and a jetty provided.</p>



<b>Tudor Farm Marina, cottages and powerboat school</b>	
<b>Current position</b> Long established provision of water sports services	<b>Opportunities</b> Development and promotion of an activity hub at the North east corner of Lower Lough Erne with multiple providers. (See entry for Kesh - re development of Future Recreational/Activity Hub)
<b>Edgewater Marina and Caravan Park</b>	
<b>Current position</b> Private sector caravan and marina complex with slipway. Busy and popular site.	<b>Opportunities</b> On water advisory information at launch points about safe conduct of fast powered craft, appropriate driver age, safe speeds. Research into density of boat use and introduction of a limited numbers launch scheme if any issues emerge. Private sector involvement in code of conduct for fast powered craft.
<b>Muckcross Jetty/Lakeland Marina</b>	
<b>Current position</b> Public jetty and private marina with marked public swimming area	<b>Opportunities</b> Outdoor swimming training events as part of activity hub. RLSS outdoor lifesaving training opportunities and canoe sessions. Advisory information as for Edgewater above
<b>Kesh</b>	
<b>Current position</b> Attractive village and visitor service point for Lower Lough Erne and nearest village to the activity bases in the nearby bays. Kesh has a jetty and can be reached via the river from Lough Erne. Toilets and showers are provided for boaters adjacent to the jetty but do not have 24 hr access. Village has several attractive pubs and restaurants	<b>Opportunities</b> Previously it was proposed/ recommended for the formalisation of Kesh/Irvinestown/Castle Archdale as an activity hub for the North East of Lough Erne. However it may be more prudent to scale back the extent of this Recreational Hub, in light of the many nearby Natural heritage interests, and limit, but focus the extent of the recreational hub to include the areas east and north east of Kesh and which would include the areas around the marina's (Edgewater, Tudor Farm Marina, cottages and powerboat school and Muckcross Jetty) (See main map of Proposed Future Recreational Hubs for an outline of the proposed recreational hub in this area). Develop 24 hour access to toilets and showers. Promotion of Kesh as a key destination on the Lough.

<b>White Island</b>	
<p><b>Current position</b> Popular island visit from Castle Archdale via trip boat. Early Christian Heritage site. Unique stone carved figures. Public jetty. Island owned by Fermanagh District Council.</p>	<p><b>Opportunities</b> Inclusion in Christian Heritage site itinerary for Loughs and the Lakelands corridor. Improved ferry service as part of an integrated plan for Castle Archdale Interpretative shelter and summer guides.</p> <p>Develop a canoe trail from Castle Archdale to include Crevinishaughy Island, White Island, Tom's Island and Inishmore (aka Davy's) Island (LLE)</p>
<b>Aghinver Boat Company</b>	
<p><b>Current position</b> Popular base for boats. Provides boat maintenance services. Aghinver a good example of how marinas can blend into the shore. (model for new private and public sector development) Planning application for improvement of tourism facilities</p>	<p><b>Opportunities</b> Important that boat service industry is maintained on the Lough.</p>
<b>Tom's Island Jetty</b>	
<p><b>Current position</b> Public jetty giving access to Castle Archdale Forest (Forest Service) <b>Note: there is no public jetty at the main shore at Castle Archdale.</b></p>	<p><b>Opportunities</b> Opportunity for activities from the forest as part of a NE lake activity hub.</p> <p>Develop a canoe trail from Castle Archdale to include Crevinishaughy Island, White Island, Tom's Island and Inishmore (aka Davy's) Island (LLE)</p>
<b>Davy's Island (aka Inishmore) See proposals above for White Island</b>	
<p><b>Current position</b> Jetty giving access to Davey's Island. Nature Reserve and short walks.</p>	<p><b>Opportunities</b> Promote within Lough Erne Wildlife Guide.</p> <p>Develop recently uncovered built heritage remains on the island and promote as part of potential walks on the island.</p>
<b>Crevinishaughy</b>	
<p>Two public jetties located on this island. Currently a nature reserve.</p>	<p><b>Opportunities</b> Redevelop walking trail between two public jetties.</p> <p>Develop a canoe trail from Castle Archdale to include Crevinishaughy Island, White Island, Tom's Island and Inishmore (aka Davy's) Island (LLE).</p>

<b>Castle Archdale</b>	
<p><b>Current position</b> Public lands with private sector lease of caravan park and marina area. Country Park, forest, horse-riding, orienteering, hostel and visitor centre for the country park. Very popular area but managed in parts. Adjacent float plane landings.</p> <p>Close to the village of Lisnarick.</p>	<p><b>Opportunities</b> Development of an overall joint management plan for the combined public and private sector elements of the site. Needs to play a larger role in providing access to the water for visitors and island visits. Larger boat is required for the boat trip to White Island– potential for eco-boat to be developed for this site. I Ferry to White Island to be included in overall management plan. Also potential to link Castle Archdale across the lake over to Tully Bay, Tully Castle, Drumcrow Jetty proposed recreational area.</p> <p>Development of a walking and cycleway linking Lisnarick Village to the lake shore in or through Castle Archdale.</p> <p>Increase the scope and area of a Proposed recreational area around Castle Archdale to include Lisnarick and Crevinishaughy, White and Inishmore Islands (LLE)</p> <p>Develop a canoe trail from Castle Archdale to include Crevinishaughy Island, White Island, Tom's Island and Inishmore (aka Davy's) Island (LLE).</p>
<b>Inishmakill National Nature Reserve</b>	
<p><b>Current position</b> Jetty and island owned and maintained by DfC Built Heritage for access, study and management.</p>	<p><b>Opportunities</b> Network of natural heritage sites with good visitor services and interpretation. Included in a wildlife guide to the lakes/Fermanagh. Consideration of a public jetty for landings to NNRs (Crevinishaughy, Inishmakill and Cleenishgarve) Interpretative shelters at all NNR islands</p>
<b>Rossigh Jetty</b>	
<p><b>Current position</b> Rossigh Jetty provides berthing, slipway access, camping and canoe trail facilities. Jetty is maintained by Waterways Ireland and shore facilities by Fermanagh DC. Formerly had a restaurant, now closed.</p>	<p><b>Opportunities</b> Service block to support the Erne Canoe Trail and overnight stays on the jetty. Walk from the site.</p> <p>Development of a low level Recreational Hub to include Rossigh, Lough Erne Yacht Club, all linking the town of Killadeas.</p>

<b>Inish Davar</b>	
<b>Current position</b> Owned by former NIEA Inish Davar is of interest for nature conservation and short walks	<b>Opportunities</b> Inclusion in Lough Erne wildlife sites scheme and wildlife guide Interpretative shelter Fenced picnic area Seasonal guided experiences Walk
<b>Rossclare Jetty</b>	
<b>Current position</b> A rather exposed jetty with access for both boats and anglers. No particular shore interest at this point.	<b>Opportunities</b> Maintain as important slipway for launching large craft. Provision of a picnic site Interpretation of World War 2 heritage.
<b>The Inishclare, Rossclare point</b>	
<b>Current position</b> Formerly a popular restaurant on the water, now closed. Boat moorings associated with the restaurant. High capacity (coach tour) trip boat the Inishclare from this point. Dining cruises.	<b>Opportunities</b> Reinstatement if feasible. Relocation of trip boat to service activity hub at NE of the Lough where the numbers of visitors are higher.

<b>Manor House Hotel, Marine and Cottages. Cruise Hire</b>	
<b>Current position</b> Longstanding hotel, marina and cottage complex with cruiser hire from Manor House Marine. This is an important accommodation complex on the Lough.	<b>Opportunities</b> Continuation of business as it is. Increased day boat hire.
<b>Hay island</b>	
<b>Current position</b> Island landing and informal walk	<b>Opportunities</b> Promote as part of the natural heritage
<b>Gublusk Bay, Lough Erne YC (Killadeas Town)</b>	
<b>Current position</b> Yacht club with marina, moorings and caravan site. RNLI base for the lower Lough. Main sailing base on the Lough with both modern and classic boats (Fairy class). Swinging moorings. RYA training centre. Major house and marina development planned for the south side of the bay. Also important site for flying model aircraft including model flying boats.	<b>Opportunities</b> Opportunities to develop activity instructor skills for the tourism industry. Consider public events based on flying model aircraft.  Connection the lake with the built heritage assets present in Killadeas Town.  Development of the area, including Rossigh Jetty as a Recreational Hub to include Killadeas town.
<b>St Angelo Airport/Enniskillen Airport</b>	
<b>Current position</b> Airport available on a PPR basis during daytime hours. Flying club and leisure flights. Seaplane flying lessons.	<b>Opportunities</b> Development of an official flying boat landing site associated with the airport and development of a regular connection with the Lagan in Belfast. Proposal for the development of a water-taxi jetty and marina at the site.



<b>Enniskillen including Castle Island and Castle Basin</b>	
<p><b>Current position</b> Main hub, retail and service centre for Fermanagh and wider area. Waterway passes through the town which is largely on an island. Fishing stands on approaches to the town.</p> <p>Recent developments include improvements to Henry Street Jetty and provision of a Day Hire Boat service at Regal Pass jetty.</p>	<p><b>Opportunities</b> Opportunities to access water sports from the town consistent with Castle Basin Strategy Development of a rowing boat hire base at Riverview and or Regal Pass Service Block at Henry St Jetty which should be confirmed and managed as an events jetty Promote opportunity for a hotel site and waterside restaurant and private marina base at old Police barracks/training centre Development of a houseboat section in an extended marina at Erneside. Development of a "Castle to Castle" Canoe and walking trail linking Enniskillen Castle and Castle Coole. Development of the Castle Island and surrounding area into a larger recreational area. In general there is excellent potential to develop the waterway further around Enniskillen, provided increased activities to help increase the attractiveness of the town and its existing facilities such as Enniskillen Castle.</p>
<b>Portora Boat Club</b>	
<p><b>Current position</b> Main rowing club in Enniskillen with competitive programme throughout Ireland. Hosts major events on IARU racing calendar.</p>	<p><b>Opportunities</b> Greater promotion of rowing to the local community. Development of gig racing/coastal rowing in settlements around Lough Erne and race series. Replacement of boat shed and extension of facilities is planned. Worth considering re-establishing the former sailing club downstream of this site.</p>
<b>Round O Jetty Enniskillen</b>	
<p><b>Current position</b> This jetty is a major asset to Enniskillen and is the base for the main waterbus for the town which does trips to Devenish Island.</p>	<p><b>Opportunities</b> Service Block - Better facilities such as showers would be a welcome addition to the facility. Opening of the café on a more regular basis during the visitor season. Improved walking signage to this jetty from the town</p>
<b>Waterways Ireland HQ</b>	
<p><b>Current position</b> Jetty provided to facilitate visits to HQ by staff and visitors.</p>	<p><b>Opportunities</b> Sales of Waterway Guides, permits, charts etc. facilitated by the jetty. Signage to indicate sales and opening times. Information sign.</p>

<b>Enniskillen Castle</b>	
<p><b>Current position</b> The Castle is a major attractive feature of the waterway and is open to visitors daily. At present visitors have to find their way from a range of jetties around the town.</p>	<p><b>Opportunities</b> Provision of a specific jetty to assist and encourage visits to the castle and based on short stay only Part of a historic houses and castles trail through the area Opportunity for display on historic uses of the waterways and the strategic position of the castle. Major events venue Dedicated car parking for the castle.</p>
<b>Castle Island</b>	
<p><b>Current position</b> The Castle Island has a set of buildings designed as an outdoor centre and currently primarily has canoeing use. The Council currently own the land but are working in conjunction with the local group Erne Paddlers to develop and deliver water based recreation for the community and club members.</p>	<p><b>Opportunities</b> Recent project proposals and working with Sport NI have highlighted Castle Island as an activity hub for inclusive water sports. There is potential to upgrade the buildings, improve access to and on the island, construct hoists and floating jetties to aid access into and out of boats for disabled users</p>
<b>Lakeland Forum, Broadmeadow and Jetty</b>	
<p><b>Current Position</b> Lakeland Forum currently plays no real role in providing water sports despite its riverside position. A series of jetties provides good access to the Forum for boat visitors who can use the showers and leisure facilities. The Forum in general turns its back on the river and shows its least attractive side.</p>	<p><b>Opportunities</b> To consider the development of a water fun park (similar to Bundoran) to provide a higher visitor function for Enniskillen Forum) To consider developing an indoor adventure playground at or close to Enniskillen Forum To consider developing a waterfront adventure offering from the Forum rather than from the island. Base for Enniskillen activity hub. Enniskillen Forum should develop its waterfront as an activity base.  Any development in this area, should include provision for activity in Derrychara Lough</p>

<b>Enniskillen (Erne Tours)</b>	
<p><b>Current position</b> Erne Tours provides a regular boat trip service from the Round O Jetty. In addition to tours on Lower Lough Erne the boat takes tours upriver and is facilitated by jetties at the Killyhevlin Hotel and at the Ardhowen Theatre.</p>	<p><b>Opportunities</b> Potential for a more accessible jetty to be provided in Enniskillen, e.g. close to the bus station and with a higher visibility to visitors. Added promotion and potentially more than one boat operating at peak times.</p>

### Upper Lough Erne

<b>Riverside Farm (Sillees River)</b>	
<p><b>Current position</b> B&amp;B, activities and riverside moorings on Sillees River (short branch from Erne). Informal boat park, Boat storage. Slipways. Jetties have a home-made appearance.  Local Kayak Clubs make regular use of the Sillies and nearby Arney Rivers.</p>	<p><b>Opportunities</b> Promoter wishes to extend jetties and add activities to the farm and operation. Promoter could create a riverside walk along old railway line.</p>
<b>Ardhowen Theatre and Jetty</b>	
<p><b>Current position</b> Excellent and well-used facility and an important tourism asset. Provides access to both Castle Coole and Ardhowen.</p>	<p><b>Opportunities</b> Examining additional signage to highlight opportunity to visit Castle Coole visible from water. Development of a Fermanagh show that highlights local culture for regular showing throughout the summer. Development of a theatre festival e.g. drama competition.</p>
<b>Castle Coole</b>	
<p><b>Current position</b> Castle Coole is a National Trust property on the outskirts of Enniskillen. The 18th Century House sits in a 1200-acre estate which provides walks for local people and visitors</p>	<p><b>Opportunities</b> More visibility of Castle Coole from the water at the Ardhowen Theatre jetty. The entrance to the property is a very short walk from the jetty but is not featured there. The house should be included in a presentation of all of the historic houses, castles and gardens in the area in the form of a trail linking to the rest of the Shannon and Erne.</p>

<b>Killyhevlin Hotel and Chalets</b>	
<b>Current position</b> A major and well established hotel that benefits from its position on the waterway. The hotel is accessible from the WI public jetty rather than having its own jetty.	<b>Opportunities</b> Water activity could be available from the hotel jetty
<b>Rowing Course Finish Jetty</b>	
<b>Current position</b> Rowing course finish jetty Jetty provided for rowing races, for spectators, staff and competitors Also used for waterskiing.	<b>Opportunities</b> Activities available in conjunction with Killyhevlin. Development of improved facilities for waterskiing Picnic and seating facilities.
<b>Culky Floating Jetty (Mullenaclog)</b>	
<b>Current position</b> Popular stop off and access point for waterskiing. Short walk and picnic area.	<b>Opportunities</b> Potential to create a Recreational Hub linking Killyhevlin Jetties and Culky Jetties – which would also tie in with the proposed Devenish – Killyhevlin Blueway/Canoe trail or a shorter amended version of "Castle to Castle" which its suggested that a formal canoe and walking trail be established linking Enniskillen Castle with Castle Coole.
<b>Tamlaght Bay</b>	
<b>Current Position</b> Quiet, off channel bay between Culky Jetty and Bellanaleck.	<b>Opportunities</b> Single point moorings (swinging moorings) for the use of cruisers and sailing craft have been installed by Waterways Ireland, providing a "Quiet Mooring" experience for boaters.

<b>Bellanaleck incl. Cleenish Island</b>	
<p><b>Current position</b>  Area contains one public jetty, The Moorings and the Erne Marina.  The public jetty gives access to the village of Bellanaleck and there is a facilities block at the jetty. Bellanaleck is an attractive settlement and has the additional attraction of fishing on Mill Lough (public fishery) for rainbow and brown trout. Nearest access point to the Sheelin Irish Lace Museum.  A circular walkway developed from the Marina, up the Enniskillen road towards town and back down to the Marina again. A community Garden has also been developed along Waterhen Lane.</p>	<p><b>Opportunities</b>  Make public moorings more apparent visually from the water.  Develop an activity hub based on Bellanaleck village and the waterside.  Provide a service block.  Development of a canoe trail/"Blueway" around Cleenish Island that would incorporate the facilities at Bellanaleck.  Development and promotion of the history of Cleenish Island.</p>
<b>Carrybridge</b>	
<p><b>Current position</b>  Area on a bend in the Erne contains several private marinas, hotel, boatyards and cruise hire opportunity (Carrybridge Boat Company). Waterways Ireland Public Jetty gives access to hotel and hotel also has private jetty. There are caravan and campsite facilities. Canoe trail stopping point. Sewage pump out and full marine services.   Waterways Ireland has carried out upgrading works to the Public Jetty in 2016-2017.</p>	<p><b>Opportunities</b>  Carrybridge has the potential to be further developed as a Recreational/activity hub and is currently providing for large boats and for the canoe trail.  Signage of Carrybridge from main roads.  It is recommended that expansion and development of existing private marinas at Carrybridge would be more preferable rather than development of new marinas at sites nearby.   Improvements to appearance of the waterside facilities for approaching boats.  Provision of a service block   Development of a Canoe Trail/Blueway around the Island of Inishmore to form a looped trail around the island, using the public jetty, public slipway and car park at Carrybridge as a start and finish point for the trail.   This area is a popular location with boaters, canoeists and visitors. It is an existing activity location with the potential for the hotel to host events and functions. The area is suggested as inclusion as a Future Recreational Area, within the scope of the LELP Conservation Land Management Strategy.</p>



<b>Belle-Isle Estate</b>	
<p><b>Current position</b> Provides self-catering cottages around the estate, activities. Including a cookery school, walks angling and boat trips from private estate. Holds the EU Flower Eco Label.</p>	<p><b>Opportunities</b> Continue to provide full packages at high quality Potential for a public jetty to provide access to the tourist attractions of the estate Provide additional activities. Provide a walk from the jetty. Waterways Ireland proposal for an island loop canoe trail around Belleisle.</p>
<b>Naan Island West (Forest Service FNR)</b>	
<p><b>Current position</b> Forest Service island access. Woodland walks. Recently felled conifer areas have opened up views from the island.</p> <p>This island is the only island on Upper Lough Erne that is serviced by a public jetty.</p>	<p><b>Opportunities</b> Interpretative shelter Wildlife island as part of a network of natural heritage sites that can be visited by boat</p>

<b>Kilmore Quay</b>	
<p><b>Current position</b> Public jetty with access via shallow water for smaller boats. In need of repair. Slipway Watermill Restaurant close by.</p>	<p><b>Opportunities</b> Repair/replacement of jetty and slipway to provide additional destination. Enhance access for small boats and canoes.</p>
<b>Share Centre (Lisnaskea) and Smith's Strand</b>	
<p><b>Current position</b> Multi-activity centre with catered and self-catering facilities and camping and caravan Park. Caters well for people with disabilities. Boat trips on the 57 seat Inishcruiser are available on Sundays and Bank Holidays throughout the season and the boat is available for private hire.</p>	<p><b>Opportunities</b> Promotion as one of 3 main activity hubs. Increased opportunities to access activities from Smith's Strand (summer swimming and water safety school for local children). Development of a cluster of activity businesses operating from the area and offering a wide range of water and land activities. Facilitate access for activities at Smith's Strand</p>

<b>Lisnaskea</b>	
<p><b>Current Position</b> Off the main lake navigation with extensive important lakes network and wetlands between the town and the lake.</p> <p>Aughalurcher Church is an important Heritage Site and is located 1.5km SE of the town.</p>	<p><b>Opportunities</b> There have been suggestions of linking the town with a walking/cycle path to the lake shore.</p> <p>Potential to develop facilities to observe bird life and nature conservation interests. The conservation interests in this area are particularly sensitive and any development would need to be complementary of those interests.</p>
<b>Trannish Island</b>	
<p><b>Current Position</b> Trannish Island is used by Share Centre as an out centre and camp site for their groups. A derelict cottage on the island has been identified as a site for a bothy to serve the trail.</p>	<p><b>Opportunities</b> To develop a bothy to service the Lough Erne Canoe Trail.</p>
<b>Lisnaskea</b>	
<p><b>Current position</b> Lisnaskea Village is an attractive settlement with an active community life. There have previously been proposals to extend the navigation to the village. The village has a leisure centre at Castle Park. Lisnaskea is well situated for access to both water and land activities including Sliabh Beagh.</p>	<p><b>Opportunities</b> Lisnaskea would benefit from being connected to the water. Consider revisiting pervious feasibility and environmental impact study for extending the navigation to Lisnaskea to provide a new destination on the Upper Lough</p>
<b>Lisnaskea Boat Club (Derryadd)</b>	
<p><b>Current position</b> Lisnaskea Boat Club is very active and has both sailing boats and powered craft. Part of the Lisnaskea water festival is based at the club. The club has an events programme.</p>	<p><b>Opportunities</b> Potential for the provision of activities to visitors through the club as part of the Lisnaskea Hub</p>
<b>Derryadd Jetty</b>	
<p><b>Current position</b> Derryadd jetty is a popular stopping off point for cruisers and is also, like Corradillar, a renowned point for fishing The quay is popular for coarse fishing, providing a reliable catch.</p>	<p><b>Opportunities</b> Potential site for the provision of a Service Block (alternative at Corradillar).</p>

<b>Corradillar Jetty and Slipway</b>	
<p><b>Current position</b> Corradillar jetty provides another opportunity for berthing on Upper Lough Erne. There are no facilities. The jetty was refurbished in 2008. Corradillar is close to the Share Centre and to Corradillar cottages. It is renowned for fishing and provides slipway access.</p>	<p><b>Opportunities</b> Alternative site with Derryadd Quay for provision of a service block for overnighting boaters.</p>
<b>Derryvore Jetty</b>	
<p><b>Current Position</b> Quiet mooring in large, deep bay opposite Crom Castle.  Jetty has undergone an upgrade by Waterways Ireland in 2016-2017.</p>	<p><b>Opportunities</b> Walk to the church Signage and interpretation.</p>
<b>Crom Castle and Estate</b>	
<p><b>Current position</b> Crom Estate which is owned by the National Trust is a major visitor destination on Upper Lough Erne. The estate offers walks in mature woodland and with lakeshore access and views. The National Trust also rents cottages in the courtyard of the estate and operates a visitor centre which interprets the natural and historic interest of the estate. There is also a campsite/glamping pods/boat &amp; canoe hire/coffee shop.  The Castle itself is private and not open to the public, except for letting the West Wing to guests.  National Trust provides toilets and showers at the visitor centre and the site is popular with people before or after a trip through the Shannon Erne Waterway. The site will also be a significant stop off for people using the restored Ulster Canal to Clones.</p>	<p><b>Opportunities</b> When the Ulster Canal section to Clones reopens there is likely to be a greater demand for berthing at Crom. Waterways Ireland has provided improved jetty capacity at the site. WI have identified that there should be consideration given to the provision of a 24-hour service block at the site for boaters and canoeists either through National Trust or through Waterways Ireland. Given the numbers who visit there would be an opportunity for Scheduled waterbus tours. 2017: Waterways Ireland draft proposal to include Crom, Bunbridge and Galloon in a Crom-Belturbet Canoe Trail, with additional link to the nearby facility at Castle Saunderson. Wi have identified the opportunity to expand the proposed Future Recreational to included areas outside the immediate Crom Area to include Reillys and Gole woods Kilmore Quay and the newly upgraded facilities at Bun Bridge. (Show on Figure 8.4, Appendix A.)</p>

**Bun Bridge Jetty and Slipway****Current position**

Bunbridge jetty provides approximately 10 mooring spaces along the eastern channel south of Crom Estate. The jetty provides the nearest access point (4km) to Newtownbutler and is linked to this by the Kingfisher Cycle trail.

**Opportunities**

Development of walks from Bunbridge to Newtownbutler via minor roads and to the nearby Raths.

It has been recently upgraded and its proximity to Crom Estate makes it a very attractive quiet mooring location for boaters and other water users.

<b>Newtownbutler - while the town is outside boundary of the LELP, its hinterland and associated battle sites could feasibly be incorporated in to a LELP applicable project</b>	
<p><b>Current position</b> Newtownbutler is a small village of just under 1000 population and is surrounded by lakes and is a popular base for fishing. The Newtownbutler area is well provided with self-catering accommodation.</p>	<p><b>Opportunities</b> Continue to develop the angling opportunities and packages in the area Walks to Bun Bridge jetty.</p>
<b>Galloon Jetty</b>	
<p><b>Current position</b> Galloon jetty gives access to Galloon Island and is a popular and sheltered stopping point along the east channel south of Crom Estate. The jetty is serviced and has toilets and a pump out. This Jetty is likely to become more popular with the restoration of the initial section of the Ulster Canal to Clones.</p> <p>The facilities at Galloon have undergone a significant redevelopment by Waterways Ireland.</p>	<p><b>Opportunities</b> Development of walks on Galloon island.</p> <p>Inclusion of Galloon as part of a mini recreational hub in the area with connection to a Blueway between Crom Estate and Belturbet, which would also potentially link the trail to Castle Saunderson, and to the sections of the Ulster Canal to Clones as they are developed.</p>
<b>Ulster Canal</b>	
<p><b>Present Position</b> The Ulster Canal restoration proposals will open a section of the canal linking Lough Erne to the town of Clones. The access route to Clones leads past the Castle Saunderson estate where a major International Scout Camp facility and activity based is planned. A jetty will be provided to allow visitors to access the estate from the water. At Clones there will be a boat harbour.</p>	<p><b>Opportunities</b> The Ulster Canal provides a new destination from Lough Erne and extends the navigation.</p> <p>To supplement the Lough Erne to Clones section of the Ulster Canal, facilities at Crom estate and improved access would add to the overall experience for the boater, canoeists and tourists in general.</p>
<b>Corraquil</b>	
<p><b>Current position</b> A pleasant and tranquil harbour and lock with canal barge hire opportunities and a former community owned group of self-catering houses which are lying empty. Currently undergoing a major upgrade with new berthing below the lock. Facilities block provided.</p>	<p><b>Opportunities</b> Encouragement to reopen the cottages as self-catering cottage and/or encourage the provision of a camping point walking Trail/Cycle Trail. Potential for pedestrian links across Woodford River. Potential for canoe polo in harbour</p>



<b>Aghalane (Lock 1 Shannon Erne Waterway)</b>	
<b>Current Position</b> Aghalane is the first stopping point on the Woodford River/Shannon Erne Waterway. The site has a facilities block with smart card access for boaters and this includes showers and laundry facilities. The berthing is very sheltered and lies close to the main A509/N3 cross border route way.	<b>Opportunities</b> The development of a Shannon Erne Waterway waymarked route (walking/cycling) short walks from Aghalane jetty
<b>Derrylin</b>	
<b>Current position</b> Derrylin lies on a major north south route between Cavan and Enniskillen. It has tourism services such as food and beverage, accommodation and campervan hire.	<b>Opportunities</b> WI propose greater connection with the water and consideration to a summer scheme for children in Derrylin based at TIRRAROE or CORRATISTUNE jetty.
<b>Geaglum Jetty</b>	
<b>Current position</b> Good overnight shelter on jetty close to Reilly Wood and Gole Wood National Nature Reserves.	<b>Opportunities</b> Walks to Reilly Wood NNR and provision of interpretation of natural and cultural heritage of the area.
<b>Abacon Bay including Reilly and Gole Woods</b>	
<b>Current Position</b> Quiet Tranquil Bay with provision of 2 Single Point moorings	<b>Opportunities</b> Retain as a quiet mooring location.
<b>TIRRAROE Jetty</b>	
<b>Current position</b> TIRRAROE jetty provides a sheltered mooring point on Upper Lough Erne it lies within a short distance of Derrylin Village	<b>Opportunities</b> Walks to Knockninny and potential cycleway to Derrylin. Water sports summer scheme for Derrylin children or local water festival.
<b>CORRATISTUNE Quay (close to Derrylin)</b>	
<b>Current position</b> Used mainly by farmers accessing islands using cots. Important location for Waterways Ireland operations - used in seasonal aquatic weed harvesting from the lake when required.	<b>Opportunities</b> None proposed

**Marble Arch Caves Global Geopark (Extends into the Boundary of the LELP area)**

**Current position**

Marble Arch Caves Global Geopark is the premier tourist attraction in County Fermanagh and plays a significant role in the visitor economy of a wider area of Counties Leitrim and Cavan. The attraction provides cave tours on a regular basis throughout the day.

**Opportunities**

The Marble Arch is the focal point of the Marble Arch Caves Global Geopark and expects to receive an increasing number of visitors. The centre requires an update and additional facilities to host educational visitors in Fermanagh to study aspects of the Geopark. Upgrading of walks in nearby Claddagh Glen are also planned.

<b>Knockninny Quay</b>	
<p><b>Current position</b>  Knockninny Quay gives access to Knockninny Hill and Ninians Well. There are many archaeological sites in this area. The quay also serves the Knockninny Country House Guest House which is a restoration of a former hotel on Upper Lough Erne. The country house rents day boats from the quay.  Knockninny Quay has a toilet block. Close by is the Aughakillymaude Mummers Centre which has a permanent display of mumming traditions.</p> <p>The Stone quay (c1850) and jetty have undergone a restoration and redevelopment, carried out by Waterways Ireland.</p>	<p><b>Opportunities</b>  Formalise the walk up Knockninny Hill as a key activity from the jetty.  Provide information on local archaeology and provide archaeological walk  Enhance Service Block  Restore swimming beach  Signage to Mummers Centre.</p> <p>This area is a popular location with boaters, canoeists and visitors. It is an existing activity location with the presence of the hotel which hosts events and functions. The area is suggested as inclusion as a Future Recreational Area, within the scope of the LELP Conservation Land Management Strategy. Its location suits it for a meeting point for nature trips onto Naan Island.</p> <p>Constraints the important natural areas of Corraslough Point and the delta of the Cladagh/Swanlibar River are upstream of this location. It would be important to insure that the natural habitats in the area are protected and not impacted by any proposals in the area.</p>
<b>Cloonatrig Jetty</b>	
<p><b>Current position</b>  Cloonatrig and Inishmore jetties lie almost opposite each other on the River Erne western channel some 3km from Bellanaleck. The jetties are used as quiet moorings and the channel is speed limited. Cloonatrig is popular for fishing.</p>	<p><b>Opportunities</b>  Retain as quiet moorings</p>
<b>Inishmore Jetty</b>	
<p><b>Current position</b>  Cloonatrig and Inishmore jetties lie almost opposite each other on the River Erne western channel some 3km from Bellanaleck. The jetties are used as quiet moorings and the channel is speed limited. Inishmore Jetty has a picnic site.</p>	<p><b>Opportunities</b>  Retain as quiet moorings</p>

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