



DRAFT LEITRIM COUNTY DEVELOPMENT PLAN 2023 – 2029 – APPENDIX VI  
COUNTY LEITRIM LANDSCAPE CHARACTER ASSESSMENT



Comhairle Chontae Liatroma  
Leitrim County Council





# LEITRIM LANDSCAPE CHARACTER ASSESSMENT 2020



MDR1537

Leitrim Landscape  
Character Assessment  
Review  
F01

1 April 2020

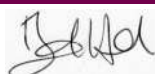
## REPORT

### Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
A01 Draft	Client Review	Eimear O'Connor	Ray Holbeach	Ray Holbeach	25 <sup>th</sup> November 2019
A02	Final (incorporating client feedback)	Eimear O'Connor	Ray Holbeach	Ray Holbeach	26 <sup>th</sup> February 2020
F01	Final (incorporating second client feedback)	Eimear O'Connor	Ray Holbeach	Ray Holbeach	1 <sup>st</sup> April 2020

### Approval for issue

Ray Holbeach



1 April 2020

© Copyright RPS Group Limited. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Limited no other party may use, make use of or rely on the contents of this report.

The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS Group Limited for any use of this report, other than the purpose for which it was prepared.

RPS Group Limited accepts no responsibility for any documents or information supplied to RPS Group Limited by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made.

RPS Group Limited has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

No part of this report may be copied or reproduced, by any means, without the written permission of RPS Group Limited.

Prepared by:

**RPS**

**Eimear O'Connor**

**Principal Landscape Architect**

West Pier Business Campus  
Dun Laoghaire, Co. Dublin A96 N6T7

**T** +353 1 488 2900

**E** eimear.oconnor@rpsgroup.com

Prepared for:

**Leitrim County Council**

B Greene

Senior Planner

Aras an Chontae  
Carrick On Shannon  
Co. Leitrim

**T** 071 9620005

**E** customerservice@leitrimcoco.ie

## Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Definition - Landscape Character.....	2
<b>2</b>	<b>POLICY CONTEXT .....</b>	<b>3</b>
2.1	European Landscape Convention.....	3
2.2	National Landscape Strategy 2015-2025.....	3
<b>3</b>	<b>METHODOLOGY .....</b>	<b>4</b>
3.1	Key Principles.....	4
3.2	Desk Study .....	4
3.3	Field Survey .....	5
3.4	Classification and Description .....	5
3.4.1	Landscape Character Types.....	5
3.4.2	Landscape Character Areas .....	5
<b>4</b>	<b>THE EVOLUTION OF THE LEITRIM LANDSCAPE .....</b>	<b>7</b>
4.1	Geology .....	7
4.2	Topography and Drainage .....	10
4.3	Soil Types.....	12
4.4	Land Cover.....	12
4.5	Biodiversity .....	14
4.6	Human Influence on the Leitrim Landscape .....	16
4.6.1	Prehistoric, Stone Age and Bronze Age .....	17
4.6.2	Early Christian and Norman Period .....	22
4.6.3	The Leitrim Plantations .....	26
4.6.4	Industry and Agricultural Improvement.....	26
4.6.5	Famine, Agricultural Reform .....	29
4.6.6	The Modern Day .....	30
<b>5</b>	<b>LANDSCAPE CHARACTER TYPES .....</b>	<b>31</b>
5.1	LCT 1. Coastal Plain .....	34
5.2	LCT 2. Coastal Drumlin Farmland.....	36
5.3	LCT 3. Wooded Lakeside Farmland .....	37
5.4	LCT 4. Cluffed Uplands and Landslips.....	38
5.5	LCT 5. Moorland Plateaus .....	39
5.6	LCT 6. Moorland Hills.....	41
5.7	LCT 7. Upland Farmland and Foothills .....	42
5.8	LCT 8. Valley Farmland .....	43
5.9	LCT 9. Drumlin Farmland.....	44
5.10	LCT 10. Major Loughs.....	45
5.11	LCT 11. Drumlin Lough and Stream Margins .....	46
5.12	LCT 12. River Floodplain .....	47
5.13	LCT 13. Low Limestone Outcrops.....	48
5.14	LCT 14. Drumlin Farmland with Peat Bogs.....	49
5.15	LCT 15. Undulating Hill Farmland .....	50
5.16	LCT 16. Steep Mountain Peaks .....	51
5.17	LCT 17 Tabular Hills .....	52
<b>6</b>	<b>LANDSCAPE CHARACTER AREAS.....</b>	<b>53</b>
6.1	LCA 1. Tullaghan Coast.....	55
6.1.1	Landscape description .....	55
6.1.2	Key Characteristics .....	55
6.1.3	Geology and Landform .....	56

6.1.4	Land cover .....	57
6.1.5	Human Influences .....	57
6.1.6	Landscape Evaluation .....	58
6.1.7	Conservation Recommendations.....	59
6.2	LCA 2. Lough Melvin Lowlands.....	60
6.2.1	Landscape description .....	60
6.2.2	Key Characteristics .....	60
6.2.3	Geology and Landform .....	61
6.2.4	Land Cover .....	62
6.2.5	Human Influences .....	62
6.2.6	Landscape Evaluation .....	63
6.2.7	Conservation Recommendations.....	63
6.3	LCA 3. Lough Macnean Upper.....	65
6.3.1	Landscape description .....	65
6.3.2	Key Characteristics .....	65
6.3.3	Geology and Landform .....	66
6.3.4	Land Cover .....	66
6.3.5	Human Influences .....	67
6.3.6	Landscape Evaluation .....	67
6.3.7	Conservation Recommendations.....	68
6.4	LCA 4. Arroo and Mountain Outliers .....	69
6.4.1	Landscape description .....	69
6.4.2	Key Characteristics .....	69
6.4.3	Geology and Landform .....	70
6.4.4	Land Cover .....	70
6.4.5	Human Influences .....	71
6.4.6	Landscape Evaluation .....	71
6.4.7	Conservation Recommendations.....	73
6.5	LCA 5. Tievebaun Uplands .....	74
6.5.1	Landscape description .....	74
6.5.2	Key Characteristics .....	74
6.5.3	Geology and Landform .....	75
6.5.4	Land Cover .....	76
6.5.5	Human Influences .....	76
6.5.6	Landscape Evaluation .....	76
6.5.7	Conservation Recommendations.....	78
6.6	LCA 6. The Doons and Crockauns .....	79
6.6.1	Landscape description .....	79
6.6.2	Key Characteristics .....	79
6.6.3	Geology and Landform .....	80
6.6.4	Land Cover .....	81
6.6.5	Human Influences .....	81
6.6.6	Landscape Evaluation .....	81
6.6.7	Conservation Recommendations.....	83
6.7	LCA 7. Benbo .....	84
6.7.1	Landscape Description .....	84
6.7.2	Key Characteristics .....	84
6.7.3	Geology and Landform .....	85
6.7.4	Land Cover .....	85
6.7.5	Human Influences .....	86
6.7.6	Landscape Evaluation .....	86
6.7.7	Conservation Recommendations.....	87
6.8	LCA 8. Boleybrack Uplands .....	88

6.8.1	Landscape description .....	88
6.8.2	Key Characteristics .....	88
6.8.3	Geology and Landform .....	88
6.8.4	Land Cover .....	89
6.8.5	Human Influences .....	90
6.8.6	Landscape Evaluation .....	90
6.8.7	Conservation Recommendations.....	91
6.9	LCA 9. Northern Glens, Central Lowlands & Lough Allen .....	93
6.9.1	Landscape description .....	93
6.9.2	Key Characteristics .....	93
6.9.3	Geology and Landform .....	93
6.9.4	Land Cover .....	95
6.9.5	Human Influences .....	95
6.9.6	Landscape Evaluation .....	96
6.9.7	Conservation Recommendations.....	97
6.10	LCA 10. Sliabh Anierin .....	99
6.10.1	Landscape description .....	99
6.10.2	Key Characteristics .....	99
6.10.3	Geology and Landform .....	99
6.10.4	Land Cover .....	100
6.10.5	Human Influences .....	101
6.10.6	Landscape Evaluation .....	102
6.10.7	Conservation Recommendations.....	103
6.11	LCA 11. Corry Mountain.....	104
6.11.1	Landscape description .....	104
6.11.2	Key Characteristics .....	104
6.11.3	Geology and Landform .....	106
6.11.4	Land Cover .....	106
6.11.5	Human Influences .....	106
6.11.6	Landscape Evaluation .....	107
6.11.7	Conservation Recommendations.....	108
6.12	LCA 12. Ballinamore Loughlands.....	109
6.12.1	Landscape description .....	109
6.12.2	Key Characteristics .....	109
6.12.3	Geology and Landform .....	111
6.12.4	Land Cover .....	111
6.12.5	Human Influences .....	112
6.12.6	Landscape Evaluation .....	113
6.12.7	Conservation Recommendations.....	114
6.13	LCA 13. South Leitrim Drumlins & Shannon Basin.....	115
6.13.1	Landscape description .....	115
6.13.2	Key Characteristics .....	115
6.13.3	Geology and Landform .....	116
6.13.4	Land Cover .....	117
6.13.5	Human Influences .....	118
6.13.6	Landscape Evaluation .....	120
6.13.7	Conservation Recommendations.....	121
6.14	LCA 14. Corriga Uplands .....	122
6.14.1	Landscape description .....	122
6.14.2	Key Characteristics .....	122
6.14.3	Geology and Landform .....	124
6.14.4	Land Cover .....	124
6.14.5	Human Influences .....	124

6.14.6	Landscape Evaluation .....	124
6.14.7	Conservation Recommendations.....	125
<b>7</b>	<b>REFERENCES .....</b>	<b>126</b>

## Tables

Table 1: Mapped or spatial Datasets used in the 2002 and 2019 studies. ....	4
---	---

## Figures

Figure 1-1: County Leitrim Study Area .....	1
Figure 4-1: Geology of County Leitrim.....	8
Figure 4-2: Topography and Drainage of County Leitrim .....	11
Figure 4-3: Corine Land Cover 2018 of County Leitrim.....	13
Figure 4-4: Designated Nature Sites County Leitrim .....	15
Figure 4-5 Human Influence County Leitrim.....	16
Figure 5-1: Landscape Character Types County Leitrim.....	32
Figure 5-2: Landscape Character Types – Leitrim and Adjacent Counties.....	33
Figure 6-1: Landscape Character Areas Co Leitrim .....	53
Figure 6-2: Landscape Designations Co Leitrim .....	54

## Appendices

Appendix A Field Survey Sheet.....	127
------------------------------------	-----



# 1 INTRODUCTION

In May 2019, Leitrim County Council commissioned RPS Group to undertake a review of the Landscape Character Assessment of County Leitrim, published in 2002. The purpose of the review was to ground truth and verify the original study undertaken 17 years previously, documenting any changes and including these changes in an updated landscape character assessment (LCA) for Co. Leitrim. The study area, comprised of the County of Leitrim is illustrated in Figure 1.1 below.

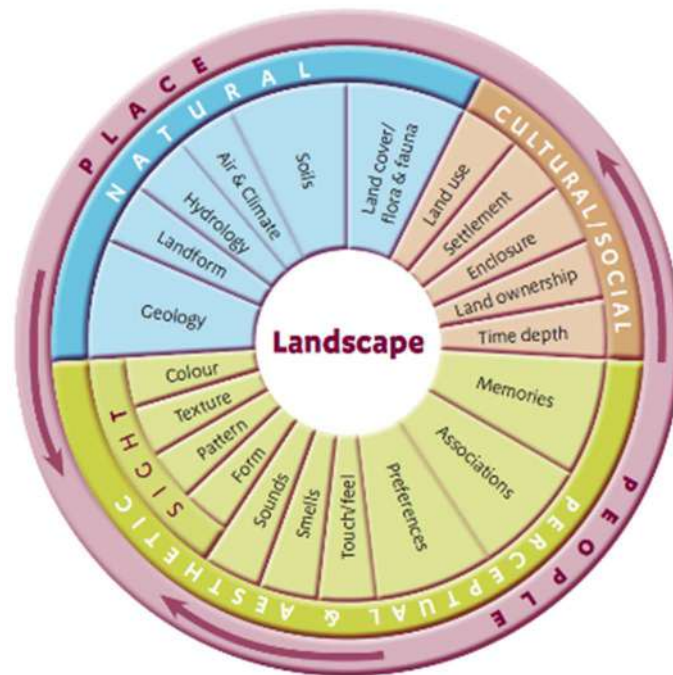


Figure 1-1: County Leitrim Study Area

The LCA will also be used as a tool to guide development to be sympathetic to local variations in landscape character and to inform land management activity to conserve and enhance landscape character. It is important to recognise that this LCA does not set out policy, but serves as a baseline for decision making by the local authorities.

## 1.1 Definition - Landscape Character

Landscape Character can be defined as a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another. A variety of natural, cultural and perceptual attributes of landscape collectively give rise to character and is indicated graphically in the diagram below.



**The Landscape Wheel, Source - Natural England Information licensed under the Open Government Licence v1.0.<sup>1</sup>**

Landscape Character Assessment is the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive<sup>2</sup>.

The remainder of this report is structured as follows:

- Section 2 Policy Context;
- Section 3 Methodology;
- Section 4 Evolution of the Leitrim Landscape;
- Section 5 Landscape Character Types; and
- Section 6 Landscape Character Areas.

<sup>1</sup> <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/1/open-government-licence.htm>

<sup>2</sup> Natural England (2014), *An Approach to Landscape Character Assessment*. Available online at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691184/landscape-character-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf)

## 2 POLICY CONTEXT

### 2.1 European Landscape Convention

The European Landscape Convention (ELC) is the first international treaty dedicated to the protection, management and planning of all landscapes in Europe. Ireland, along with thirty-eight other Member States, signed and ratified the Council of Europe's European Landscape Convention (2000) Treaty which came into effect on 1st March 2004. The primary aim of the treaty is to encourage member states to introduce a national landscape policy that is not restricted to the protection of exceptional landscapes but also takes everyday landscapes into consideration. Articles 5 and 6 commit signatory states to a number of actions which are designed to help ensure compliance with the overarching aims of the ELC. These include the need to recognise landscapes in law, to establish policies aimed at landscape planning, protection and management and the integration of landscape into other policy areas.

The ELC contains 18 articles which, collectively, promote landscape protection, management and planning and organising European cooperation on landscape issues. Article 1 defines the terms used in the ELC. These include:

- *“Landscape” – an area perceived by people whose character is the result of the action and interaction of natural and/or human factors;*
- *“Landscape policy” – an expression by the competent public authorities of general principles, strategies and guidelines that permit the taking of specific measures aimed at the protection, management and planning of landscapes;*
- *“Landscape protection” – actions to conserve and maintain the significant or characteristic features of a landscape, justified by its heritage value derived from its natural configuration and/or from human activity;*
- *“Landscape management” – action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes; and*
- *“Landscape planning” – strong forward-looking action to enhance, restore or create landscapes.*

### 2.2 National Landscape Strategy 2015-2025

The National Landscape Strategy was developed to ensure compliance with the aspirations of the European Landscape Convention (ELC). It comprises a policy framework to achieve balance between the protection, management and planning of the landscape. The strategy vision states *‘Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning.’*

The strategy objectives and actions are to:

- Recognise landscapes in law as outlined in Articles 5 (a) and 6 E of the ELC;
- Develop a National Landscape Character Assessment as outlined in Articles 6C and D;
- Develop Landscape Policies as outlined in Articles 5 (b) and (d) and Article 9;
- Increase Landscape Awareness as outlined in Article 6 A;
- Identify Education, Research and Training needs as outlined in Article 6 B; and
- Strengthen Public Participation as outlined in Article 5 (c).

### 3 METHODOLOGY

The methodology for the Leitrim Landscape Character Assessment Review, hereinafter referred to as LCA review, followed best practice guidance on approach to landscape character assessment published by Natural England together with the Heritage Council Landscape Character Guidance.

#### 3.1 Key Principles

The process of Landscape Character Assessment takes account of five key principles as set out in the guidance published by Natural England in 2014. The principles and their application to the Leitrim Study is set out below:

- Landscape is everywhere and all landscape and seascape has character. The term Landscape applies to natural, rural, urban and peri urban areas (edges of settlements / built up areas) that may be considered to be of outstanding quality as well as every day working landscapes or degraded areas. A seamless approach to the character assessment of land and sea is recommended. The scope of the Leitrim LCA review has excluded urban and peri urban areas. The LCA review includes consideration of seascape;
- Landscape Character Assessment can be undertaken at any scale. In the case of Leitrim County, the local authority scale applied at county level as recommended in the guidance (2014) is 1:50,000 and this is deemed appropriate. It also reflects that used for the 2002 study;
- The process of Landscape Character Assessment takes account of how the landscape is perceived and experienced by people. In addition to the visual experiences, landscape is also perceived through the senses of hearing, smell, touch and taste. These perceptual characteristics are captured in the field survey detail as part of the LCA review for Co. Leitrim together with representation of landscapes in music, art, literature;
- The process of Landscape Character Assessment provides an evidence base for decision making. The output from the LCA review will comprise a written classification and map of landscape character areas and landscape character types. It will inform further studies relating to sensitivity and capacity for various development types in the County; and
- The process recognises that a wide variety of natural and socio-cultural variables feed into landscape character and combine to create sense of place and understanding of the landscape.

#### 3.2 Desk Study

The LCA review commenced with a desk-based review of mapped datasets in GIS and descriptive data in the Landscape Character Report for Co. Leitrim published in 2002. The equivalent up to date mapped datasets available in 2019 were also examined along with additional recently published datasets of relevance in order to further inform the LCA review.

The table below lists the mapped or spatial data sets published in the 2002 landscape character assessment and the datasets used to inform the 2019 LCA review.

**Table 1: Mapped or spatial Datasets used in the 2002 and 2019 studies.**

Dataset	2002	2019
Basemapping	1:50000 scale Ordnance Survey Mapping	1:50000 scale Ordnance Survey Mapping
Aerial photography	Not specified	Aerial photography data available to view from Google Earth Pro.
Land cover	Land cover (Corine 2000 available at the time of the 2002 LCA)	Land cover (Corine 2018)



Dataset	2002	2019
Topography	Topography presented as contours/DTM	DTM open source data
Geology	Geological Survey of Ireland 500,000 scale bedrock geology mapping.	Geological Survey of Ireland, Quaternary Sediments map dataset 2017 Geological Survey of Ireland, Bedrock 500k Scale map dataset. Geological Landscape Types and physiography level 3 available from Geological Survey of Ireland.
Human Influence	Not referenced directly in the published assessment. Assumed to have consulted National Monuments spatial data available at the time of assessment.	National Monuments map Database and National Inventory of Architectural Heritage sourced from the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs Historic Environment Viewer.  Survey of Designed Landscapes spatial data provided by NIAH on request.
Biodiversity	Not referenced directly in published report.	Biodiversity and designated nature sites
Recreation	Not referenced directly in published report.	Recreational Walking routes
Landscape Character Assessment	No previous LCA data.	Landscape Character Types (jpeg map data only) and Landscape Character Areas from 2002 landscape character assessment.

### 3.3 Field Survey

A standard field survey sheet was developed for the LCA review and is included in Appendix A. This was used to record information concerning the physical, aesthetic and perceptual characteristics of the landscapes of Leitrim as observed and in order to verify and refine the mapped areas of common character drafted in the desk-based landscape character assessment.

### 3.4 Classification and Description

The findings of both the desk-based and fieldwork studies were documented in an updated Landscape Character Assessment of Co. Leitrim with the published 2002 landscape character assessment as a reference and starting point.

#### 3.4.1 Landscape Character Types

An overview map of the County showing the location of the individual landscape character types (LCTs) is presented in Figure 5.1. This is followed by descriptive data on the character of each of the individual LCTs supported with photographs.

The published guidance by Natural England defines **Landscape character types** as *‘distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use, and settlement pattern’*<sup>3</sup>.

#### 3.4.2 Landscape Character Areas

Descriptive data on each of the individual landscape character areas (LCAs) is presented. The locations and extents of these is presented in Figure 6.1. This is followed by descriptive detail on each individual LCA

<sup>3</sup> An approach to Landscape Character Assessment, 2014 Natural England.

including a bullet point list of the key characteristics, a map detail of the extent of each LCA overlaid on 1:50,000 scale discovery mapping and photographs.

The published guidance by Natural England defines **Landscape character areas** as units of the landscape that are geographically specific and have their own character or sense of place. They:

- are the unique individual geographical areas in which landscape character types occur;
- share generic characteristics with other areas of the same type, but have their own particular identity;
- can often be more readily recognised and identified by non-specialists – sense of place is often important to local people and visitors for example; and
- can be used to develop tailored policies and strategies, that reflect the characteristics that make a given landscape different or special.<sup>4</sup>

The landscape character area descriptions are followed by further detail regarding valued and sensitive attributes, condition and forces for change.

### 3.4.2.1 Landscape Value

The descriptive data on each LCA is followed by a list of valued attributes interpreted from the original published landscape character assessment of 2002 together with fieldwork. The landscape evaluation also takes account of local designations. In many parts of Ireland, local authorities identify locally valued landscapes and recognise them through local designations. In Leitrim, these are Areas of Outstanding Natural Beauty (AONB) and Areas of High Visual Amenity (AHVA). Views and prospects are also identified.

Valued attributes in the landscape are identified aside from the local authority designations. Valued landscape attributes are often characteristics of a landscape which are fundamental to its character. Such attributes, if lost or removed, would result in fundamental alteration to current character. Valued attributes often reflect the characteristics of a landscape which are recognised and valued by local communities. In this regard, the scope of work for the LCA review did not include consultation with stakeholders. Thus, this study relied on indicators of value arising from the previously published assessment.

### 3.4.2.2 Landscape Condition

A summary of the condition of each LCA is presented, based on fieldwork observations and information from aerial photography and published data relating to biodiversity designations.

### 3.4.2.3 Forces for Change

Visible forces for change are presented in the context of past forces for change documented in the landscape character assessment of 2002.

### 3.4.2.4 Conservation Recommendations

Recommendations for landscape conservation are presented for each LCA. These relate to the safeguarding of the valued and sensitive attributes identified in each LCA along with a range of measures to be considered in regard to land based activities and to manage future change

---

<sup>4</sup> An approach to Landscape Character Assessment, 2014 Natural England.

## 4 THE EVOLUTION OF THE LEITRIM LANDSCAPE

The main phases of physical and cultural evolution which have shaped the distinctive landscapes of Leitrim that we see today are described below.

### 4.1 Geology

The County of Leitrim is broadly divided into two halves, the northern half comprised of mountain uplands with carboniferous limestone cliffs and glacially deepened valleys and the southern half comprised of lowland areas with numerous lakes, the largest of which is Lough Allen. The solid geology of County Leitrim is presented in Figure 4.1 below.

The mountain landscapes of the north feature some of the oldest rocks in the County, dating back to Pre-Cambrian time, circa 940 million years ago. These oldest rocks occupy a narrow strip extending from Lough Gill in the south west to north of Manorhamilton in the north east and are an extension of the Ox Mountains in Co. Sligo. These rocks are believed to have been deposited as sandstone, however due to extreme heat and pressure at some time between 540 and 580 million years ago, metamorphosed these sandstones into a banded, high grade metamorphic rock called gneiss which formed the hill of Benbo, south west of Manorhamilton.

At this time, Ireland was divided into 2 parts associated with two separate continents (North America and Europe) lying on opposite shores of the proto-Atlantic or Iapetus Ocean. Over time, the continents drew closer until about 440 million years ago when they collided. The ocean closed and the merging of these continents brought together the two halves of Ireland. Rock formations were formed as part of this closure and these were more severe on the American side and resulted in folded structures of considerable scale running north east/south west across Newfoundland, North West Ireland (Including Leitrim), Scotland and Scandinavia. Precambrian rocks west of Manorhamilton dating back 600 MA and comprising sand, limestone and muddy sand that accumulated on an ancient sea floor, were metamorphosed to quartzite, marble and schist by the heat and pressure generated as the continental plates moved towards each other.

About 300 million years ago, Ireland was above sea level and subject to erosion. Rivers flowed generally north to south transporting silt, sand and gravel which cemented into sandstone (Old Red Sandstone). This was followed by further tectonic disturbance when the Island became submerged beneath a warm calcium rich sea, rich in animal and plant life which ultimately accumulated on the sea floor and consolidated as limestone. This limestone occupies much of the County of Leitrim south of Drumshambo. The sea at this time comprised clear water which later began to carry sand and clay which then consolidated into sandstone and shale in the rivers and lakes south of Drumshambo during the Devonian age, about 360 to 415 million years ago. Some of the sandstones represent deltas that formed at river mouths.

The waters eventually became shallow and vegetation began to establish. Over time, this vegetation became consolidated into coal and hence this period became known as the Carboniferous Period.

The rocks that lie beneath much of Leitrim are Carboniferous in age (360-320 million years) and are mostly sedimentary rocks comprised of limestones together with sandstones, shales and low grade coal deposits. These were deposited in the tropical marine environment described above. Subsequent erosion removed abundant areas of coal all over Ireland leaving limited deposits such as that at Arigna in the neighbouring County Roscommon.

Carboniferous rocks throughout the county generally dip to the south-east. The youngest rocks are found on the hills around Lough Allen. Above the main limestones, which underlie the low ground in the south-east of the county, are more mudstones and sandstones, with a few thin coal seams, forming the hills of Seltannasaggart, Slieve Anierin and Bencroy.

The youngest rocks of Leitrim date back to 60 million years and comprise igneous dykes which are fissures cutting through older rocks which became filled with lava which subsequently solidified as basalt. These features occur on the large plateau between Lough Melvin and the Glenade valley and a further occurrence about 3 km south-west of Dromahair.

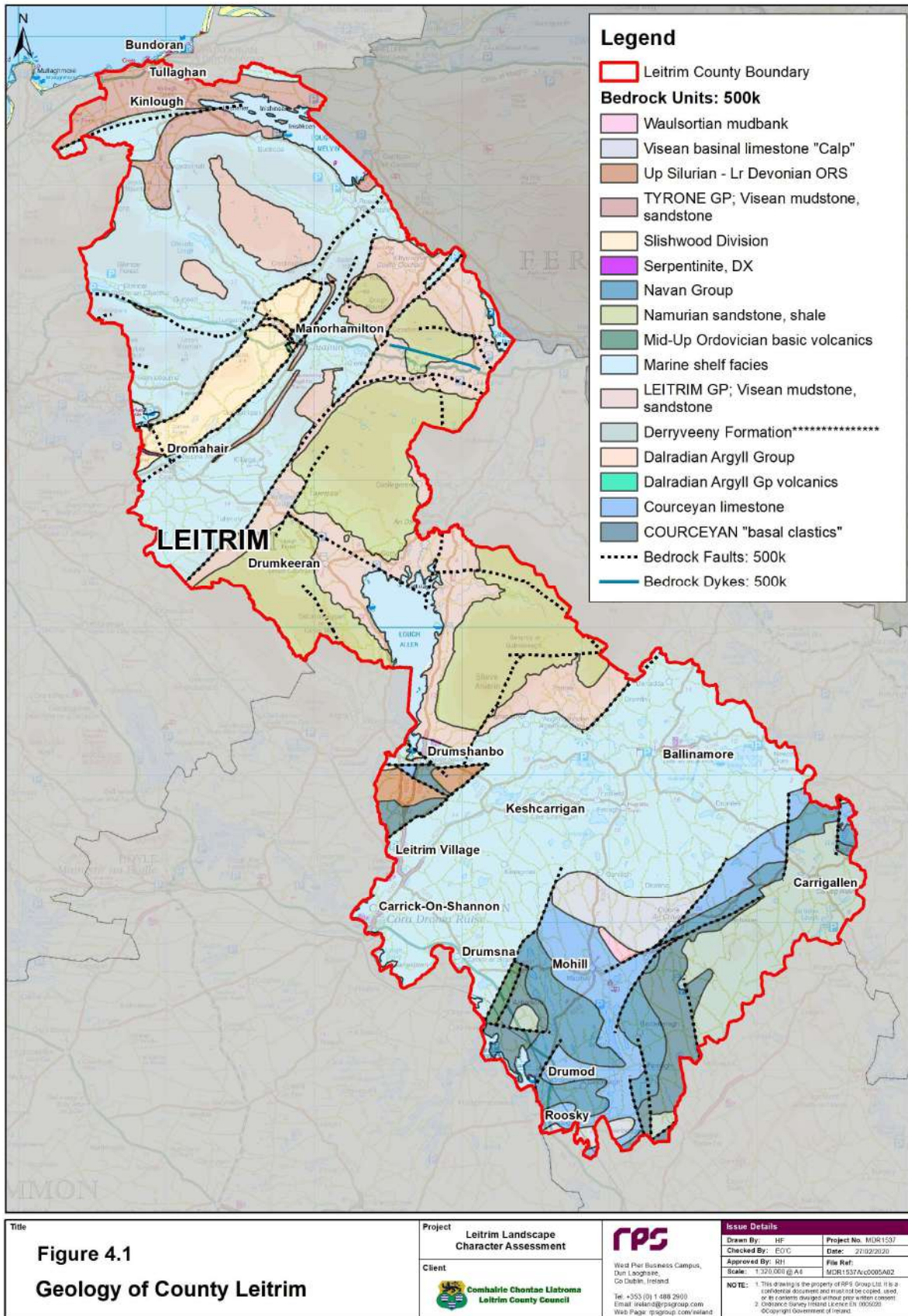


Figure 4-1: Geology of County Leitrim



Leitrim, like other counties in Ireland, was subjected to total glaciation on a number of occasions. Glacial episodes have had a profound influence on the landscape, shaping the underlying geology and depositing massive volumes of drift. Little is known about earlier glacial episodes as all traces have been erased by subsequent glaciations. In Ireland the most recent glaciation is called the Midlandian Glaciation and occurred roughly 20,000 years ago. The ice extended across Leitrim from north east to south west in the vicinity of the Lough Allen Basin. Ice streams flowed north west along the Drumkeeran corridor, the Melvin trough, Glenade and Glencar and southwards from Sliabh an Iarainn across the limestone lowlands of Drumshanbo, Ballinamore and Mohill. Some boulders of harder rock were carried considerable distances from their source. However most of the glacial material was carried a short distance and therefore is similar to the underlying bedrock.

The effects of both glacial erosion and deposition have had a very strong influence on the nature of the Leitrim landscape. During glaciation, erosion was most severe on the higher summits and in the deeper valleys such as Glencar and Glenade which were aligned parallel to the direction of the ice flow. These steep-sided deep valleys are good examples of glacial U-shaped valleys. Giant landslips which form part of the distinctive topography of these valleys resulted from glaciers receding. The melting of ice and consequent loss of support resulted in huge blocks of limestone sliding down on the soft mudstones beneath.

The lowlands by contrast were mantled by a thick cover of stiff, clayey till deposited during a later stage of glaciation which was moulded into the form of small hills or drumlins. The clay was extruded under heavy ice pressure and is therefore very dense in texture. The name 'Drumlin is derived from the Irish word for diminutive hill. 'These drumlins are generally oval in plan however a broad range of shapes and sizes exist and they usually occur in clusters or fields. The drumlins are orientated in the general direction of the ice flows and are a valuable indicator of glacial activity. Drumlins were responsible for blocking whatever drainage systems were in place prior to the ice ages and have forced water to be ponded back into a multitude of small lakes seen across the landscape of Leitrim today.

Surrounding the drumlins are marshy flats and lakes. In the north of the County along the coast, where conditions did not favour the formation of drumlins, calp and sandstone moraines were deposited as the ice sheet retreated northwards to Donegal Bay.

When the ice sheets became active again around 17,000 years ago outflow glaciers were confined to the glens. Being strongly erosive these gouged out massive quantities of material and caused spectacular landslips which found their way into the valley below, forming gentle undulating slopes and foothills. Beneath the ice flow, boulder clay produced from ground down pieces of bedrock, was deposited and moulded into drumlins.

By about 15,000 years ago the last remnants of ice had melted away from the valleys. However, during an exceptionally cold period between 8,800 and 8,300 BC, small corrie glaciers appeared in the higher mountains and coarse debris was washed into the lowland lakes and depressions. Soon after this there was a rapid improvement in the climate which marked the beginning of the post-glacial period.

## 4.2 Topography and Drainage

Great variation in topography exists across the County of Leitrim as illustrated in Figure 4.2 below. The northern uplands feature dramatic mountains interspersed with spectacular glacial glens. The highest summits comprise flat plateau areas and table top like mountains which are assumed to be the remains of a plain, weathered and eroded perhaps during the tertiary period 65 million years ago. These include The Arroo Mountains to the north reaching up to 482m AOD, The Crockauns in the north west; The Boleybrack Mountains reaching up to 449m AOD in the north east, Dough Mountain and Thur Mountain. In the north west, the steep sided east facing slopes of Truskmore at a maximum of 631m OD rises further to 647m OD immediately west of the County Boundary in Sligo. Further south, Bencroy and Slieve Anierin at 585m OD overlook Lough Allen from the east.

The thaw that occurred at the end of the ice age resulted in the deposition of vast quantities of boulder clay in clusters of drumlin hills which feature over much of the southern lowlands. Their presence, in tightly spaced swarms and collectively with same orientation interspersed with loughs creates the distinctive drumlin hill landscape.

The drainage pattern is derived from the main rivers Shannon, Bonet, Duff, Diffreen and by tributaries to Lough Erne and Lough Melvin. The Shannon catchment is by far the largest and drains the centre and south west of the County. The gradient on this river is generally very gentle and flooding occurs frequently. Similar conditions prevail in the south east of the County where the slow moving tributaries of the Erne drain the landscape.

The Bonet, which flows into Lough Gill, drains much of the north west of the County. The north east of the County is drained by tributaries to Lough Melvin which in turn is drained by the Drowes which forms the boundary between Leitrim and Donegal. The extreme north west is drained by the Duff. Elsewhere along the coast small streams flow directly into the sea.

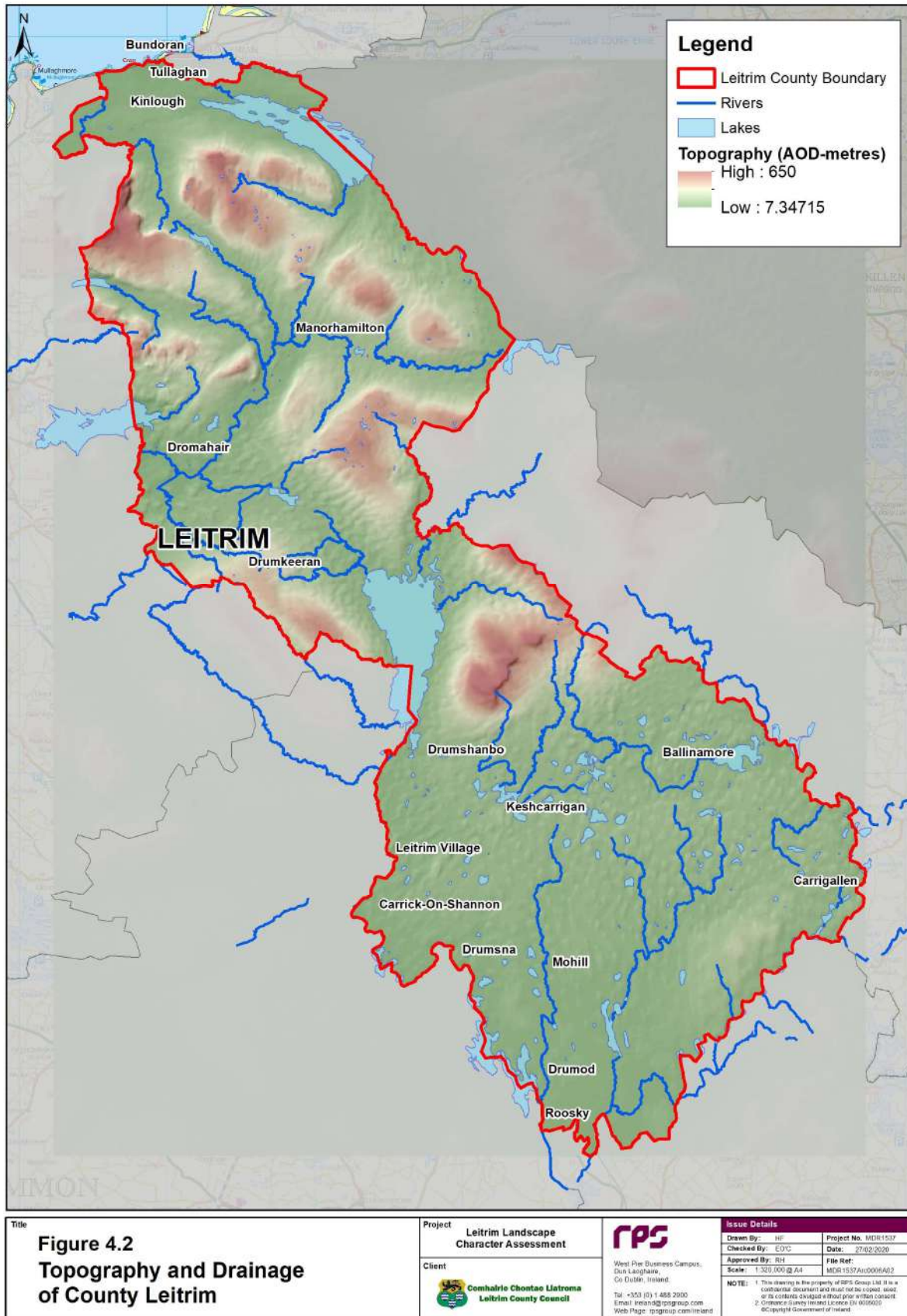


Figure 4-2: Topography and Drainage of County Leitrim

## 4.3 Soil Types

The various soil types in Leitrim have developed from the combination of numerous factors, most notably of the parent material from which the soils are derived, terrain, climate and vegetation cover. Because most glacial material was carried only a short distance, the bulk of material from which soils are derived is similar to the underlying bedrock. Leitrim's soils have been forming since the last glacial episode when all previous land cover was stripped from the land surface.

The majority of soils are limited in terms of agricultural production. Combined with the nature of landform, grassland agriculture has been the dominant land use within the County. The majority of the soils are Gleys, which tend to be very sticky in wet conditions. Even for pasture production these soils present difficulties; the weak structure and poor drainage renders them susceptible to poaching damage by grazing stock. This factor limits the length of the grazing season and proportion of fodder required. Despite their shortcomings, if well managed and manured these soils have a moderately high pasture production capacity. Gleys are also considered to be relatively productive forest soils. However, poor root penetration can often lead to windthrow. Peats are most extensive soils after Gleys. These are characterised by a high content of organic matter. Two types of peat may be identified; basin peats of which raised bogs and fens are composed, formed in lake basins, hollows, river valleys; and blanket peats which accumulate under conditions of high rainfall and humidity in the uplands of central and north Leitrim. Where drainage is adequate, basin peats are suitable for grassland farming and vegetable growing. Blanket peat is generally suited to extensive grazing although sward improvement can be achieved through drainage, manuring and re-seeding. A small percentage of Leitrim's soils are suitable for tillage. However, a high boulder density and frequent rock outcrops present significant obstacles to successful crop farming. The County's high incidence of rain days and low sunshine hours relative to the rest of Ireland further reduce agricultural diversification.

## 4.4 Land Cover

A diverse mosaic of land cover types occur throughout the county and are derived from a combination of factors including underlying geology, glacial drift, topography and soils. The mountain moorland areas in the north feature expansive areas of peat bog and heath generally at elevations exceeding 300m. The lower slopes and foothills feature a mosaic of natural grassland with pockets of mixed species and broadleaf woodland. Expansive tracts of plantation coniferous forest are also present. The valleys and glens in between mountain and ridgelines feature drumlin farmland in use predominantly as pasture with hedgerows and sometimes post and wire fences as enclosure.

The southern part of the county features a mosaic of pastoral drumlin hills interspersed with numerous loughs and areas of coniferous and deciduous forest. Field pattern is generally strongly defined by mature hedgerows. Other land cover types such as peat bogs are especially prevalent south of Mohill near the county boundary. An overview of the land cover types of County Leitrim is presented in Figure 4.3 below.

Recent trends in terms of an increase in commercial coniferous forestry is especially apparent in the farmed lowlands south of Slieve Anierin and similar plantations of smaller scale occur in the uplands in particular the lower slopes of Dough Mountain.



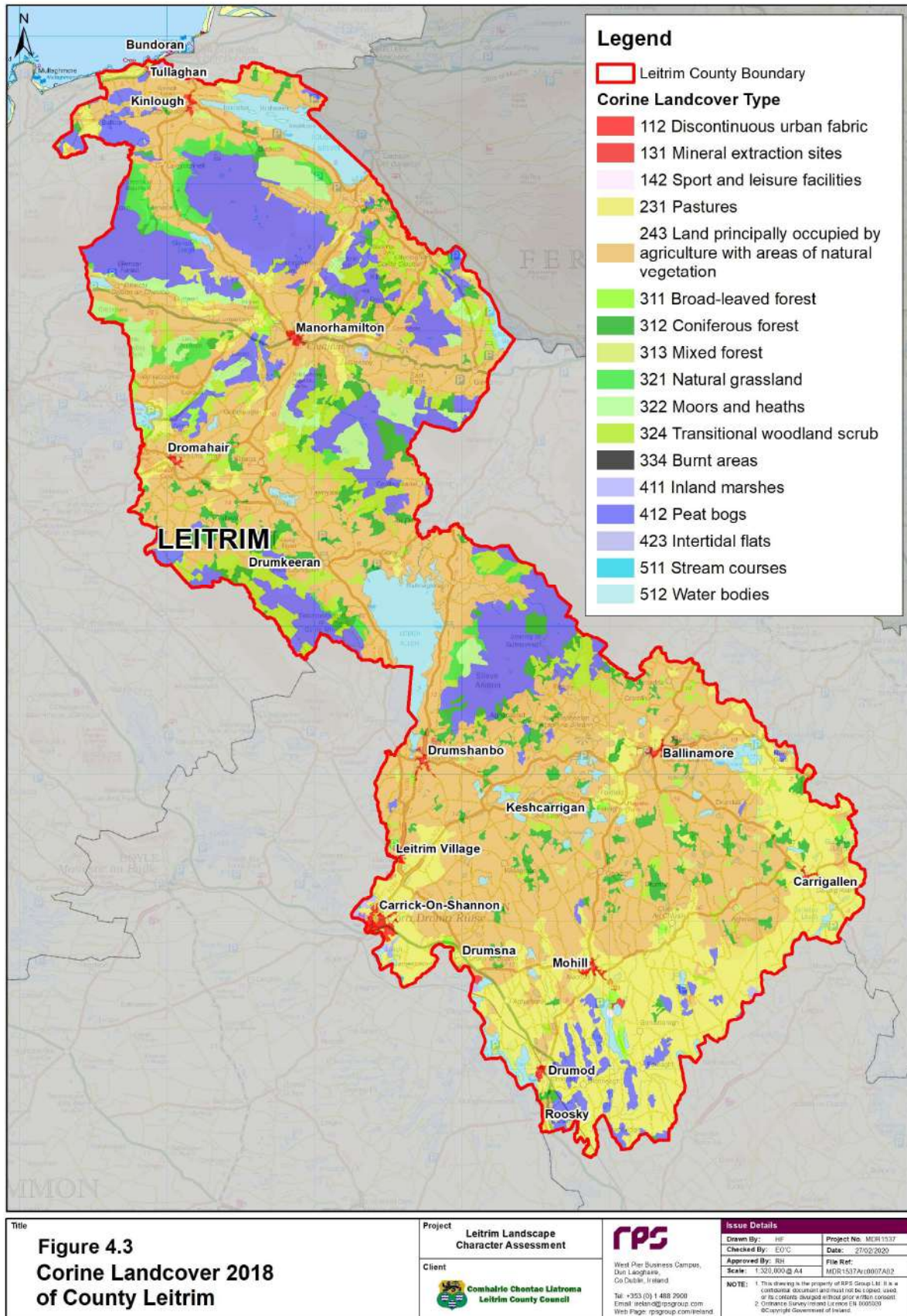


Figure 4-3: Corine Land Cover 2018 of County Leitrim

## 4.5 Biodiversity

County Leitrim hosts internationally and nationally designated sites for biodiversity and nature conservation. These include six Special Areas of Conservation (SAC), one Special Protection Area (SPA), and 36 National Heritage Areas (NHA) and proposed National Heritage Areas (pNHA) and are illustrated in Figure 4.4.

A wide range of habitats occur throughout the county, varying from marine, freshwater, grassland, and woodland/hedgerow, to karstic, peatland, moorland, and upland (montane). These habitats feature a diverse range of species.

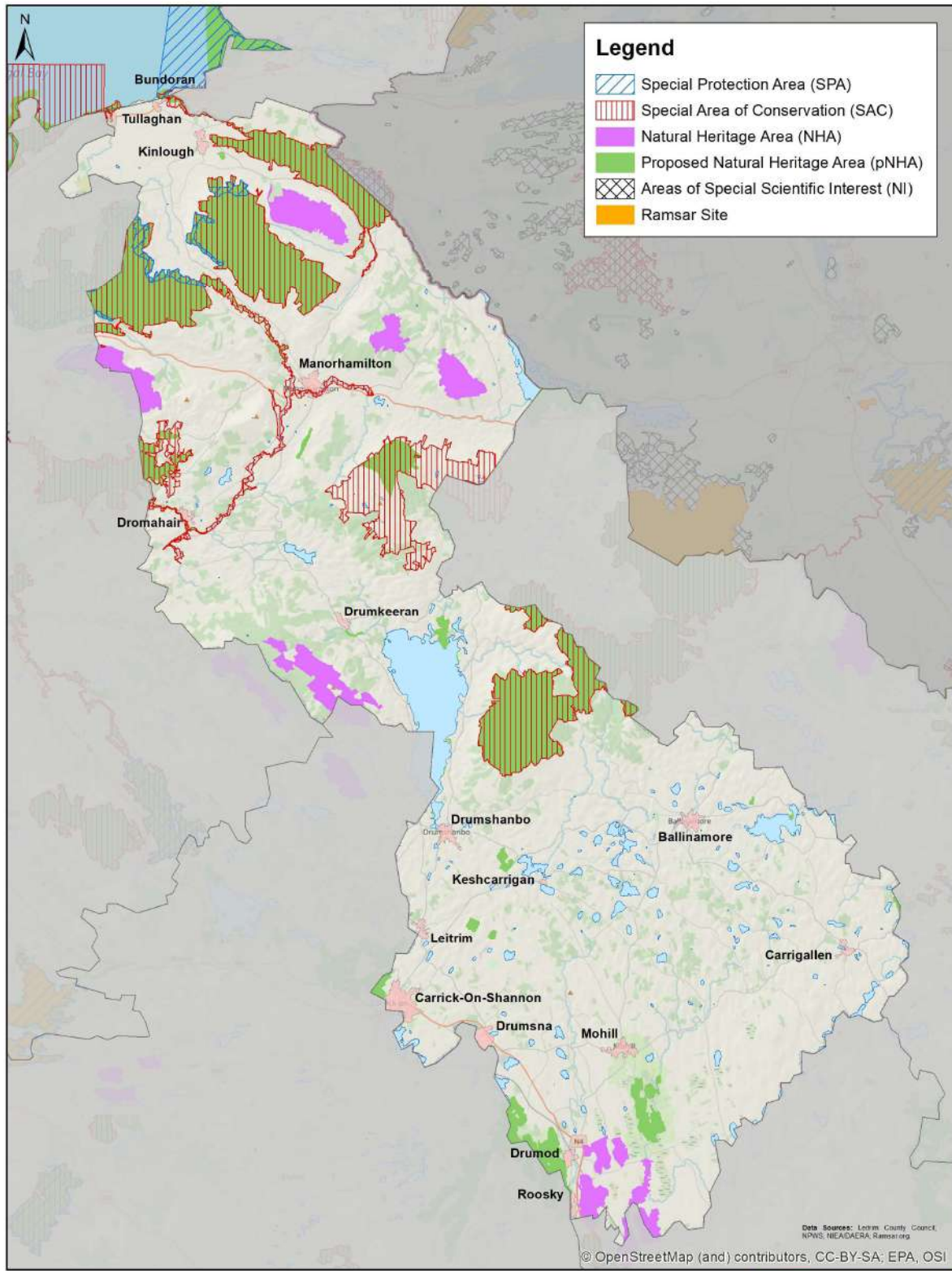


**Aquatic Habitat - River Shannon**

Leitrim is one of the few counties in Ireland which features both blanket and raised bog areas albeit the condition of these varies, with the biodiversity value of some undermined by drainage interventions.

The main threats and pressure to these habitats and species include the spread of invasive alien plant species and the alteration and degradation of semi-natural habitats through development.





<b>Title</b> <b>Figure 4.4</b> <b>Designated Nature Sites</b>	<b>Project</b> Leitrim Renewable Energy Strategy	 West Pier Business Campus, Dun Laoghaire, Co Dublin, Ireland Tel: +353 (0) 1 488 2600 Email: rps@rpsgroup.com Web Page: www.rpsgroup.com/ireland	<b>Issue Details</b> Drawn By: NCM   Project No. MDR1537 Checked By: DC   Date: 27/02/2020 Approved By: RH   File Ref: Scale: 1:520,000 (6) A4   MDR1537Ac0010A02
	<b>Client</b>  Comhairle Chontae Leitrim Leitrim County Council		<b>NOTE:</b> 1. This drawing is the property of RPS Group Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent. 2. Ordnance Survey Ireland License: 010050002020 ©Copyright Government of Ireland.

Figure 4-4: Designated Nature Sites County Leitrim

## 4.6 Human Influence on the Leitrim Landscape

Human activity and settlement in the Leitrim landscape dates back to as early as the Mesolithic Period. Subsequent generations have since left their mark, shaping the landscape to that which we see today. These physical influences which occurred over time are recorded in the archaeological and architectural heritage of the county held by the National Monuments Service. An overview of this is presented in Figure 4.5 below.

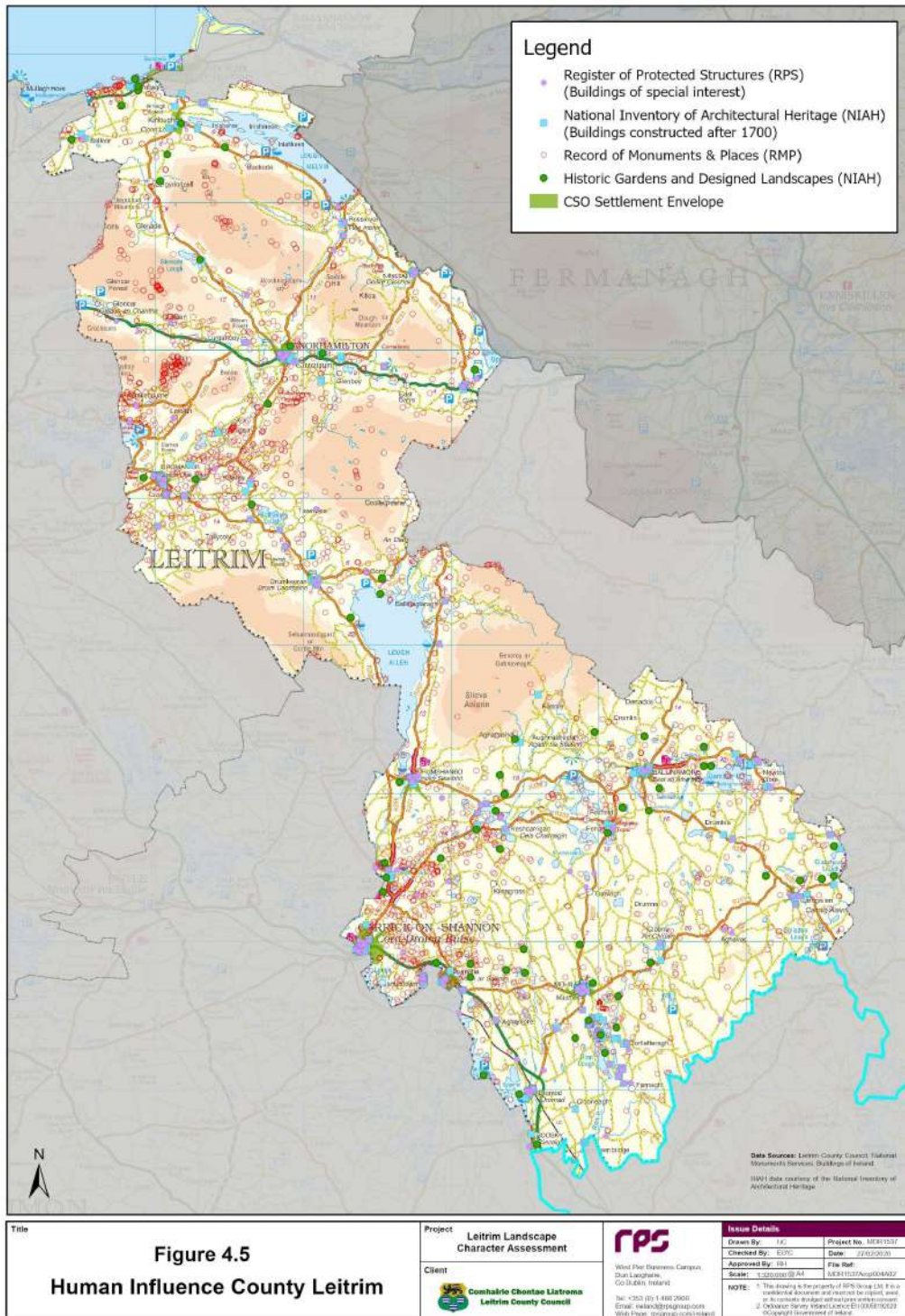


Figure 4-5 Human Influence County Leitrim



### 4.6.1 Prehistoric, Stone Age and Bronze Age.

During the Mesolithic period, roughly 9000 years ago (c. 7000BC), the last ice sheets had retreated from the Island of Ireland and vegetation cover began to establish, including heaths and grasses and later forests of Pine on higher ground and Elm and Oak in the lowlands.

The first settlers were hunters and gatherers and their homes were built of mud and wood and little or no signs of these can be seen in the landscape today. The spread of farming in Ireland generally around 4000 BC had a dramatic impact on the landscape due to forest clearance to facilitate cultivation. The custom for communal burial in stone structures known as megalithic tombs (large stone) during this period is apparent at particular locations. These are generally the oldest surviving structures in the County. At Tullaghan in North Leitrim a megalithic cemetery composed of at least a dozen tombs remains as a lasting monument to the dead of the Stone Age period. Other tombs from that period are to be seen at Fenagh (Fenaghbeg and Commons), Lough Scur, Lough Allen (Kilnagarns Lower), Sheemore and in the area around Manorhamilton. An interesting single court grave occurs at Corraclona close to Kiltyclogher.

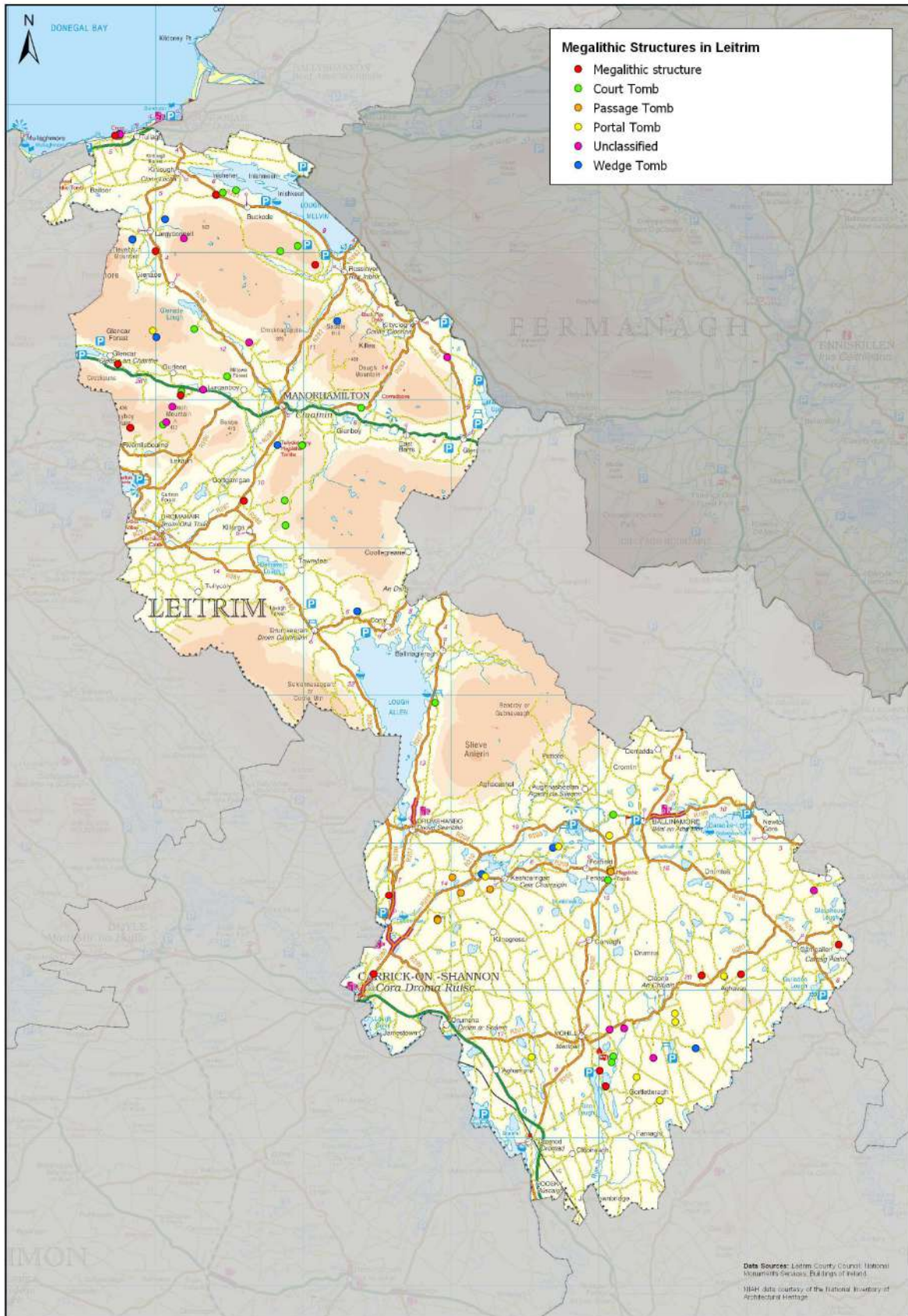


**Remains of a standing stone, Fenagh, Co. Leitrim**



**Sheemore, the site of a Megalithic Tomb viewed from the River Shannon**

The landscape around the collapsed dolmen overlooking Lough Scur offers much evidence to support the presence of a considerable Neolithic population. However, it has been shown that in Leitrim, megaliths were almost all sited on small pockets of good land associated with outcrops of rock in areas regarded as poor for settlement. It is possible therefore that with future investigation of the wider landscape, traces of houses and settlements will be discovered. The distribution of the tombs themselves throughout Leitrim, covering the four principal types of megalithic tomb known in Ireland and indicated in the map extract below may represent territorial divisions between diverse religious or political groups and suggests that there may have been large populations with a degree of centralised control and strong ritual beliefs.



Megalithic structures in Leitrim



During the Bronze Age (c. 2,500BC) metal tools became available and larger trees could be felled and heavier soils worked allowing settlement to expand in lowland areas. A number of fulacht fiadh (remains of cooking sites dating from 1900 BC to 1400 BC) occurred within the drumlin farmland and glens throughout the county. These ancient cooking sites usually comprise small horseshoe shaped mounds made up of small blackened stones (used in the cooking). Climate change and the spread of farming during the late Bronze Age are believed to be partially responsible for the spread of upland bog. Tree regeneration was limited by farming and resulted in soils becoming wetter and more poorly drained.

Towards the end of the Bronze Age and the beginning of the Iron Age, kingdoms were established and territories consolidated. This led to a period of political turbulence and battle. Hillforts and linear earthworks are the visible traces of the defensive behaviours of the Iron Age communities. The 'Black Pig's Race' in the north-east of Leitrim represents part of the Black Pig's Dyke which runs from Dorsey to the Atlantic coast as an intermittent series of banks and ditches. This earthwork, dating to 390 - 370 BC, is generally regarded as a defence against cattle raiding but may also have had ritual significance, defining tribal boundaries. The remnants of this linear earthwork are present in the north east of the County. Between 338 BC and 44 BC the massive ramparts of the Doon of Drumsna were constructed. Although outside Leitrim, the earthwork delineates a sophisticated frontier fortification to control access from the Leitrim side of the Shannon across the numerous fording points formed by the river's rocky bed.



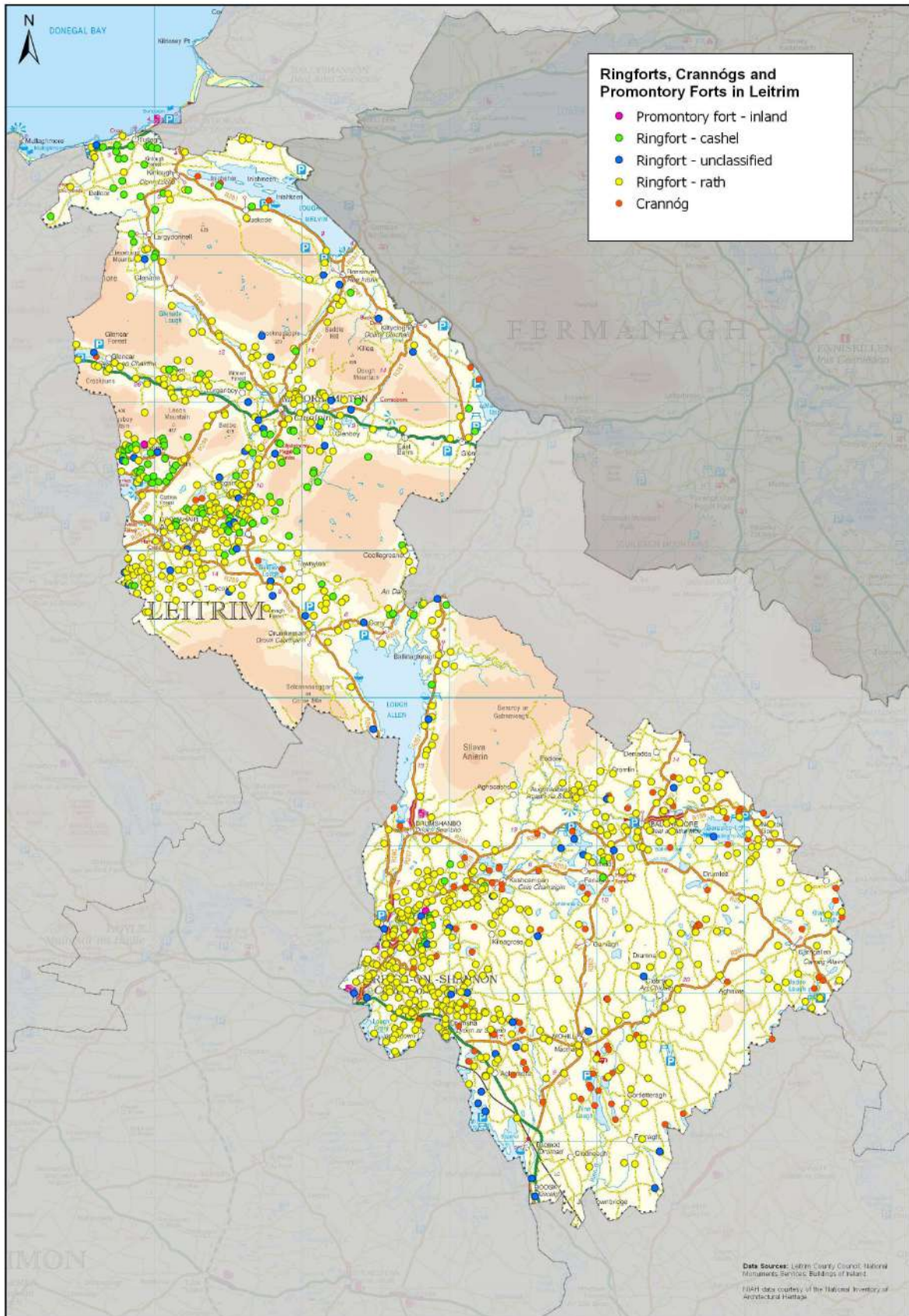


## 4.6.2 Early Christian and Norman Period

The introduction of Christianity by St. Patrick in the fifth century brought about considerable change including the introduction of the written word. The earliest writing in Ireland probably began around 300 AD, with an alphabet known as Ogham, after Ogmios the Celtic god of writing. Inscriptions using this alphabet were carved on standing stones. The only example in Leitrim stands at Cloonmorris.

The introduction of Christianity also allowed for closer contacts with the Roman world. This came with improvements in agricultural practices and increases in population. The landscape of this period featured ringforts, known locally by various names including fort, rath, dun and lios. There are many in Leitrim, identifiable as earthen banks marking the perimeter of enclosed single farmsteads typically sited on sloping ground within lowland areas. Sometimes these were constructed of stone and known as cashels. Both types of ringfort were erected as protected enclosures around farmsteads during the Early Christian period (c.500-1100AD). Crannógs occupy semi-artificial islands made of timber, sods and stones and are conspicuous in many of the Leitrim loughs, as round scrub and tree-covered islets.





Ringforts, Crannógs and Promontory Forts in Leitrim



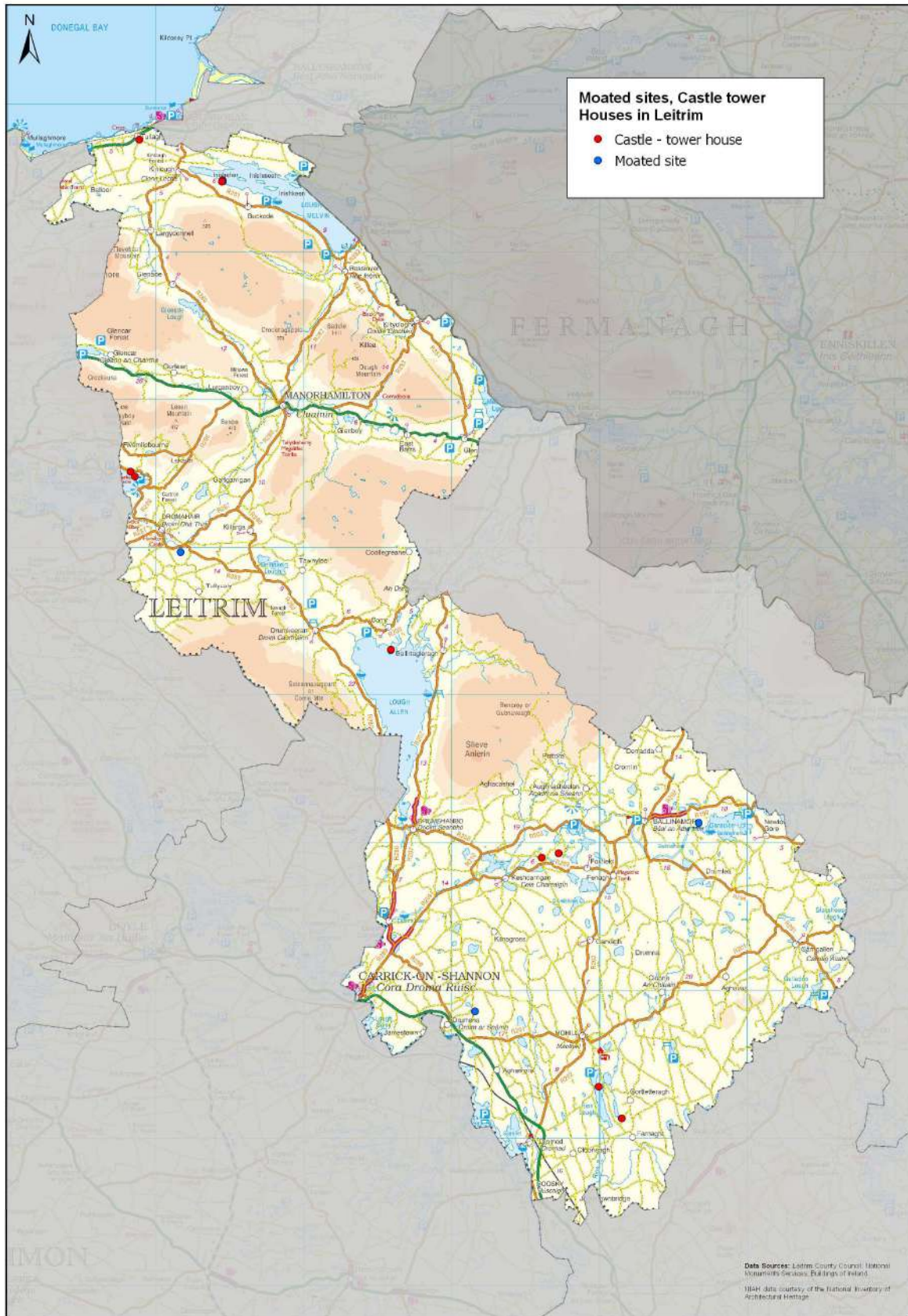
### **Crannog in Glencar Lough**

As Christianity spread through Ireland in the fifth and sixth centuries, religious enclosures built of earth or stone were established, some of which developed into full scale monasteries or, as the foci of social organisation, became the site of later towns and villages. At Fenagh, two ancient church ruins mark the site of a 6th century monastery founded by St. Cailin. It is said that some form of community life continued up to 1652 when it was ransacked by Cromwellian soldiers.

During this time, the County of Leitrim did not exist and the landscape of Leitrim was part of the old Gaelic kingdom of Breifne which was ruled by the O'Rourkes who were frequently engaged in dynastic power struggles. The Normans arrived in Ireland in 1169 and by the end of the twelfth century had conquered much of the country. These left their mark on the landscape with early settlements, motte-and-bailey castles and road routes. The initial phase of colonisation was largely concentrated into the period 1170-1135. However, Leitrim was settled in the second subinfeudation of Norman areas, probably in the thirteenth century, when rectangular defensive sites, known as moated sites featured.

Breifne largely remained within the Gaelic system under the lordship of the O'Rourkes and their control lasted up until the Elizabethan conquest. The fifteenth century saw a further period of unrest and economic decline, in part due to the Black Death and climatic deterioration. It is in this period that the tower house became a distinctive feature of the landscape, representing a defensible rural stronghold for upper class landowners. The low number and distribution of tower houses indicates that at this time Leitrim continued to occupy a peripheral position on the edge of Anglo-Norman territories. The remains of the tower house found beneath Parkes Castle on the northern shore of Lough Gill is thought to have been the stronghold of the O'Rourkes and once owned by Brian O'Rourke who was subsequently executed at Tyburn, London in 1591.





Moated sites, Castle tower houses in Leitrim

### 4.6.3 The Leitrim Plantations

The resurgence of the Irish landlords and a general breakdown of social order at the end of the sixteenth century led to a full scale war between the Irish Lords and English Royal Government. In 1601 at the Battle of Kinsale, Irish powers were dashed and the Gaelic social order collapsed. Following this in 1603, Leitrim Castle, the stronghold of the O'Rourkes and the last of the Irish castles to resist the invading armies, fell and their estate and castles were handed over to English and Scottish settlers.

The kingdom of Breifne was abolished and the shire of Leitrim was defined by Sir Anthony Leger in 1607. An early survey revealed that of its 43,200 acres only 12,240 were inhabited, the large proportion (23,760 acres) being regarded as waste. The English Government further asserted its power over the native ruling class by instigating state-organised schemes of large scale colonisation (plantation) in which ownership of large areas of land were transferred to immigrant landlords. One of the conditions of obtaining a large land grant was that a manor house or strong house surrounded by a bawn be built. Settlers were also entitled to create walled enclosures as demesne lands. Parkes Castle, on the shores of Lough Gill is a restored 17<sup>th</sup> century castle which was the home of Robert Parke.

English and Scottish settlers, keen to establish markets from which to trade, established towns such as Manorhamilton, Dromahair, Jamestown and Carrick on Shannon. The plantation towns were either extensions of former medieval settlements or entirely new. For example at Dromahair, English landlords based the layout of the planter settlement on a plan of a village in Somerset, England. Outside the planter towns, settlers reclaimed forests, established farms and laid out a regular pattern of enclosed fields which were in contrast to the scattered pattern of farmsteads and small or irregular fields of the indigenous population.

### 4.6.4 Industry and Agricultural Improvement

The economy was fuelled by a rent paying tenantry. Settlers embraced with enthusiasm new crops, vegetables (such as the potato), deciduous trees, improved breeds of sheep and cattle and innovations such as improved liming, crop rotation, drainage and enclosure.

Other enterprises included the expansion of mining operations within the 'Connaught Mineral Field' bringing great wealth to landowners. Iron had been mined since the fifteenth century. However it was from the seventeenth century that large scale coal and iron mining was undertaken, largely by local, wealthy landlords. For example, Sir Charles Coote owned mines in Leitrim and Roscommon and brought 3,000 men from England and Holland to work the mines, in order that the secret of iron mining was kept from the indigenous population. The landscape around Sliabh an Iarainn (Iron Mountain) and the Arigna valley to the west featured numerous furnaces and kilns. In the early phase of iron working these would have been fuelled with charcoal sourced from the dense local woodlands which provided a ready and seemingly endless supply. However, towards the end of the eighteenth century, indiscriminate use of timber led to supplies running out and the consequent closure of furnaces such as the Drumshanbo works. Would-be industrialists then turned to coal as a fuel source. For example, around this time the O'Reillys began to use coal in their furnace on Furnace hill, just outside Drumshanbo. The new enterprises encouraged by the Plantations demanded good communications and an ambitious canal building programme took place during the 18<sup>th</sup> century. Navigation works on the Shannon began in the 1750's by a board of Commissioners funded by special levies and had reached Carrick on Shannon by the 1780s.

The Cromwellian and Williamite victories greatly consolidated the position of the new ascendancy. Industrial interests also gave settlers the confidence and resources to establish estates and large un-fortified residences. Defensive bawns gave way to walled gardens. This was accompanied by an enthusiasm for lavish houses and ornate gardens as a means of expressing the power, wealth and taste of the ruling landlord class. Once the natural style of demesne design had replaced the earlier formal designs, the location of grand houses and gardens shifted to the slopes of river valleys and lough shores as a means of exploiting picturesque locations.





**Dwelling and walled gardens at Lough Rynn.**

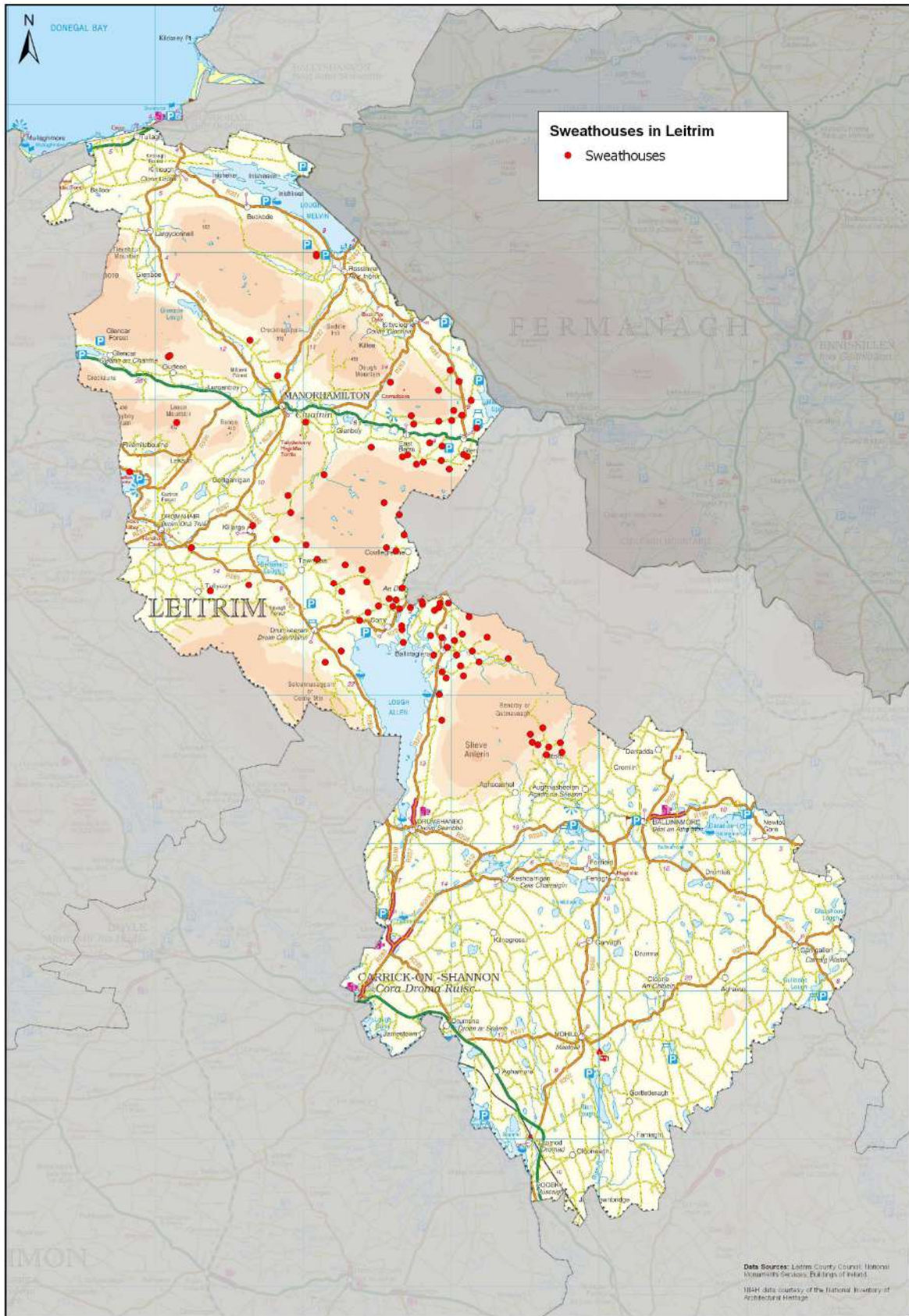
Outside the demesne and town, rural Leitrim, like much of the Atlantic littoral, was covered with small farms. However, the first Ordnance Survey maps of the County show a large area of Leitrim un-enclosed, suggesting that the countryside was largely empty until the middle of the nineteenth century. The population increases of the 18th and 19th centuries generated intensive reclamation of previously un-settled landscapes. The settlement and farming of what was previously regarded as marginal land was made possible by the potato's ability to flourish in wet, nutrient poor soils, the ready supply of turf for fuel, and the effectiveness of the rundale and clachan system.

Landlords were tolerant of the expansion as it ensured extracting maximum rent from marginal land. Thus a sparsely populated County saw a significant population increase as more of the landscape was bought into small farm cultivation. Initially settlement would have spread along new roads which were part of a communication network opening up areas of bog and moor. However, as pressure on land increased, small farms based on intensive spade cultivation of potatoes also developed on mountain slopes above the 150 m contour which had once been communal mountain pasture.



**An interesting feature of the landscape dating to the period are the sweathouses of which 78 survive in Leitrim.**





Sweathouses in Leitrim



By the early 19th century the diet of the poor labourer was becoming increasingly dependent on the potato. The key reasons being the crop's suitability for the climate, its nutrient value, and the trend towards selling oats, which had once been a traditional part of the diet, to pay rent. Under the right conditions the potato was more than an adequate means of ensuring survival particularly if grown in lazy beds, which maximised the resource potential of even the poorest soils.

In the years up to the Great Famine, the vast proportion of the population in Leitrim lived on small plots of land. These were generally five acres or less, farmed by families forced to concentrate their efforts and energies on growing potatoes. The small size of plots was a result of sub division whereby farm plots were divided between offspring on the death of the father.

### 4.6.5 Famine, Agricultural Reform

The Great Famine of 1845 - 52, caused by the arrival in Ireland of potato blight, was the greatest social catastrophe in the history of Ireland. The blight destroyed over 90% of the potato crop, its impact being most severe in counties in the west of Ireland such as Leitrim where there was a high dependency on the lumpers variety of potato.

As a result of the famine and un-sympathetic relief policies from England, death, disease and emigration spiralled. In 1841 the population of Leitrim stood at 155,297. By 1851, after the famine, it had dropped to 111,915. The thousands of famine victims were buried in the small famine graveyards that were established throughout the County and remain in the landscape as a poignant reminder of the suffering endured. It is interesting to note that the lack of food did not account for the majority of deaths. Many were a consequence of diseases such as typhus and scurvy which resulted from malnutrition.

Across Ireland in the aftermath of the famine, strong farmers and graziers increased their holdings at the expense of weaker neighbours and helped by railways and expanding English markets. The small mud cottages fell into ruin and the abandoned lazy beds were covered in bracken and gorse.

After 1880 widespread centralised intervention led to long term reorganisation of the rural landscape. It is to this period of re-organisation that the majority of the current field systems, rural settlement patterns and hedgerows in Leitrim date, superseding the open fields and rundale system of the pre-famine era. Restructuring gathered pace following a well-publicised near famine in the west of Ireland in 1889-90 which led to the establishment of the Congested Districts Board (CDB). Leitrim was wholly regarded as a Congested District by 1911.

The CDB initiated infrastructure development, agricultural improvement and promoted far-reaching changes in the countryside by re-modelling the landscape and encouraging the dispersion of farms. Land-holdings were reorganised. The clustered farm settlements and rundale holdings were replaced by owner occupied strip holdings, each with a new farmhouse located on roads. It is to this period that the farm cottages which are found throughout Leitrim date, housing being a major item of Board planning and expenditure. The vernacular style is simple without having architectural pretensions, often having lime plaster walls (white or colour washed) and slate or tiled roofs. It was also at the turn of the 20th century that landlords, who had forfeited British sympathy during the famine, were encouraged to divest their lands causing the dereliction of demesnes.

The Land Commission, formed from the older CBD, completed the transfer of the rural landscape to owner occupancy. The crude form of environmental restructuring provided families with holdings of eight to twelve hectares which have largely endured in Leitrim thanks to the symbolic importance of owning land. Indeed, very little land has passed onto the market and has therefore fossilised the land ownership pattern which arose out of the transfer to owner occupancy. The mechanics of the family farm system stressed impartible inheritance, therefore forcing the non-inheriting family members to emigrate resulting in a shrinking rural population, exacerbated by the mechanisation of farming and the resultant displacement of agricultural labourers and their families. By the 1950s emigration was a serious drain on rural communities. Indeed census figures for Leitrim in the period 1946 to 1996 show a steady fall in population from 44,591 to 25,032.

### 4.6.6 The Modern Day

Ireland's entry to the European Economic Community in 1973 resulted in further changes to the landscape of Leitrim. Farming became more intensive due to the introduction of cheap fertilisers, improvements in machinery and specialised production methods and benefits, albeit limited in the case of Leitrim, available under the Common Agricultural Policy (CAP). During this time, the landscape remained deeply rural, featuring little or no industrial development and it was difficult to obtain grants and assistance from Europe. Income support and reliance on off-farm part-time jobs have been more important than price supports and capital grants. Throughout the 1980s emigration continued and the population of Leitrim declined.

Since the 1980s, various incentive schemes have resulted in the introduction of commercial and residential developments much of which are associated with the larger towns in the County. The 2016 census revealed a population increase in the County totalling circa 32,044. The recent years have seen the landscapes of the county promoted for tourism, in particular along the Shannon for water based recreational activities although the mountains and glens in the northern part of the county are increasingly featured in tourist literature. The county as a whole is increasingly seen as an excellent base for green tourism such as fishing, walking and cycling holidays and the attractiveness of the County's landscapes is triggering increased visitor numbers and is also likely to be contributing to a gradual increase in individual rural housing.

Other more recent developments which have resulted in changes to the Leitrim Landscape include wind turbines and commercial forestry. The third National Forest Inventory completed in 2017 indicated that Leitrim is the county with the highest percentage of forest cover (18.9%)<sup>5</sup>. A total of 536ha was planted by private foresters in Leitrim in 2017. This land use change is controversial due to the resultant change and negative impact on the County's landscapes.

---

<sup>5</sup> Ireland's National Forest Inventory 2017, Main Findings, Department of Agriculture Food and The Marine

## 5 LANDSCAPE CHARACTER TYPES

The County is classified into seventeen landscape character types (LCTs). Descriptions of each of the landscape character types are presented below and are illustrated in Figure 5.1 Landscape Character Types.

The landscape character types identified by the LCA review broadly align with the landscape character types published in the 2002 report although some differences are noted as a result of the review process as follows:

- This assessment identified LCT 8 Valley Farmland located within the glens or U-shaped valleys in the northern half of the county and LCT 9 Drumlin Farmland covering a large area in the southern part of the county. These two LCTs replace the Drumlin Farmland identified in the 2002 report which covered both LCT 8 Valley Farmland and LCT 9 Drumlin Farmland. This change recognises that the drumlin farmland in the 2002 report is in fact comprised of two landscape character types, namely that contained within the glens and that comprised of lowland drumlin areas;
- This assessment identified LCT 1.Coastal Plain LCT as a distinct landscape character type associated with the coast. This differs from the 2002 report which identifies coastal fringe farmland along the coast and associated with Lough Melvin;
- This assessment identified LCT 2. Coastal Drumlin Farmland. This replaces the Coastal Lowlands LCT in the 2002 report in recognition of the drumlin topography present in this landscape;
- This assessment identified LCT 3. Wooded Lakeside Farmland as a distinct landscape character type associated with the wooded landscape around Lough Melvin. This, along with the landscape at the coastline was previously identified as Coastal Fringe Farmland in the 2002 report;
- This assessment identified LCT 14. Drumlin Farmland with Peat Bogs in the southern part of the County instead of the Eskers and raised peat bogs LCT identified in the 2002 report. This change recognises the drumlin topography present in this landscape;
- A written description is provided for The Major Loughs LCT, identified in the 2002 report on the mapped landscape character types figure only; and.
- The order in which the LCTs are presented in both mapped and written outputs is changed from the 2002 report reflecting the changes to the landscape character types overall as outlined.

The Leitrim County Boundary lies adjacent to six other counties in Ireland, namely Donegal, Sligo, Roscommon, Longford, Cavan and Fermanagh. Landscape character assessment data was available at the time of this assessment only for the counties of Donegal, Roscommon, Longford and Fermanagh. Landscape character assessment data was not available for County Sligo and the data available for County Cavan was of insufficient detail to inform this study.

The relationship between the landscape character types of Co. Leitrim and the available landscape character data for the adjacent counties is presented in Figure 5.2 Landscape Character Types – Leitrim and Adjacent Counties.

The mapped boundaries of the landscape character types in the published 2002 report were not available as ESRI shapefiles. The review undertaken in 2019 however retraced and retained these boundaries broadly in line with that previously published except where changes (in the bullet point list above) to the 2002 defined landscape character types were deemed necessary as part of the LCA review.



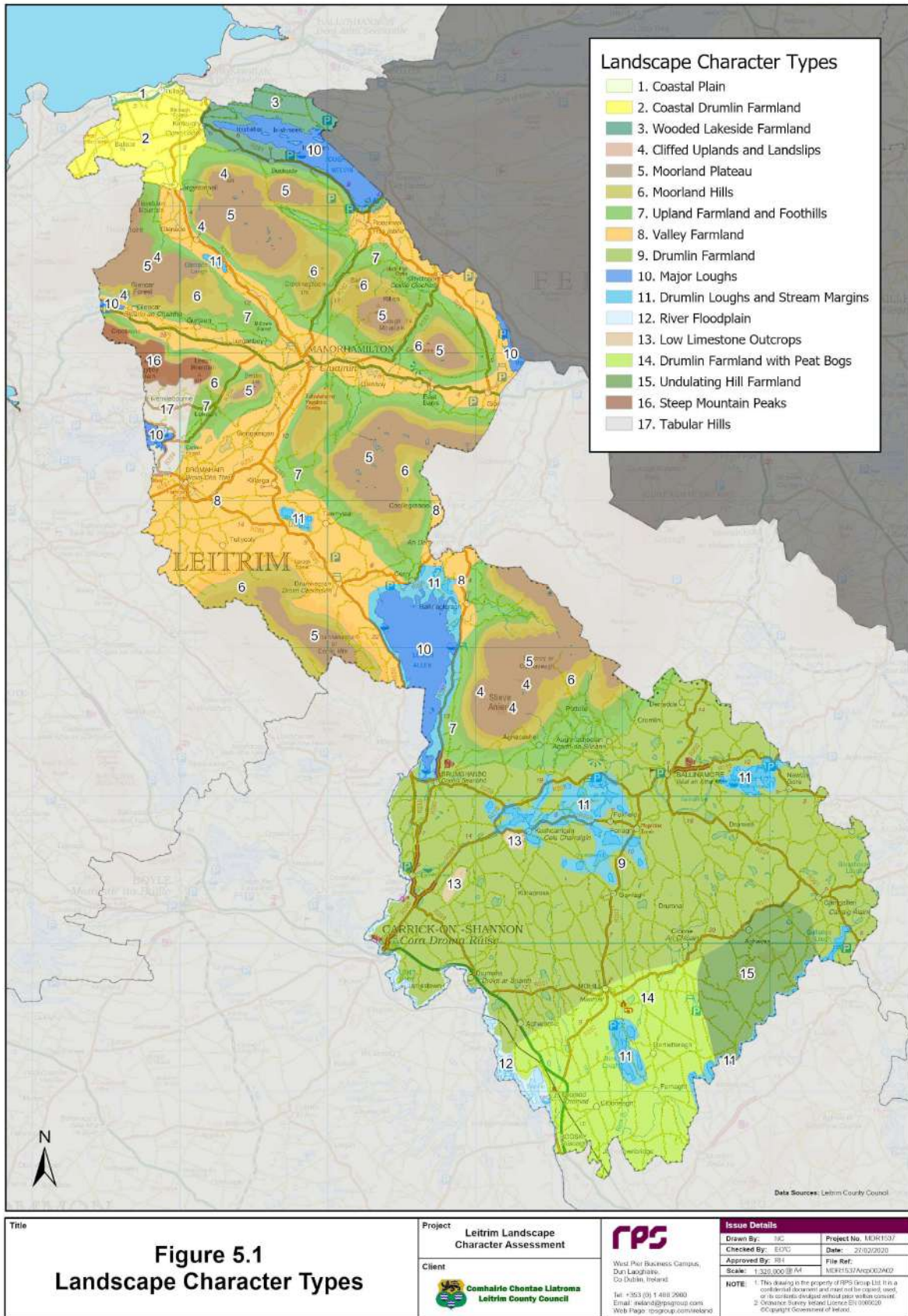


Figure 5-1: Landscape Character Types County Leitrim



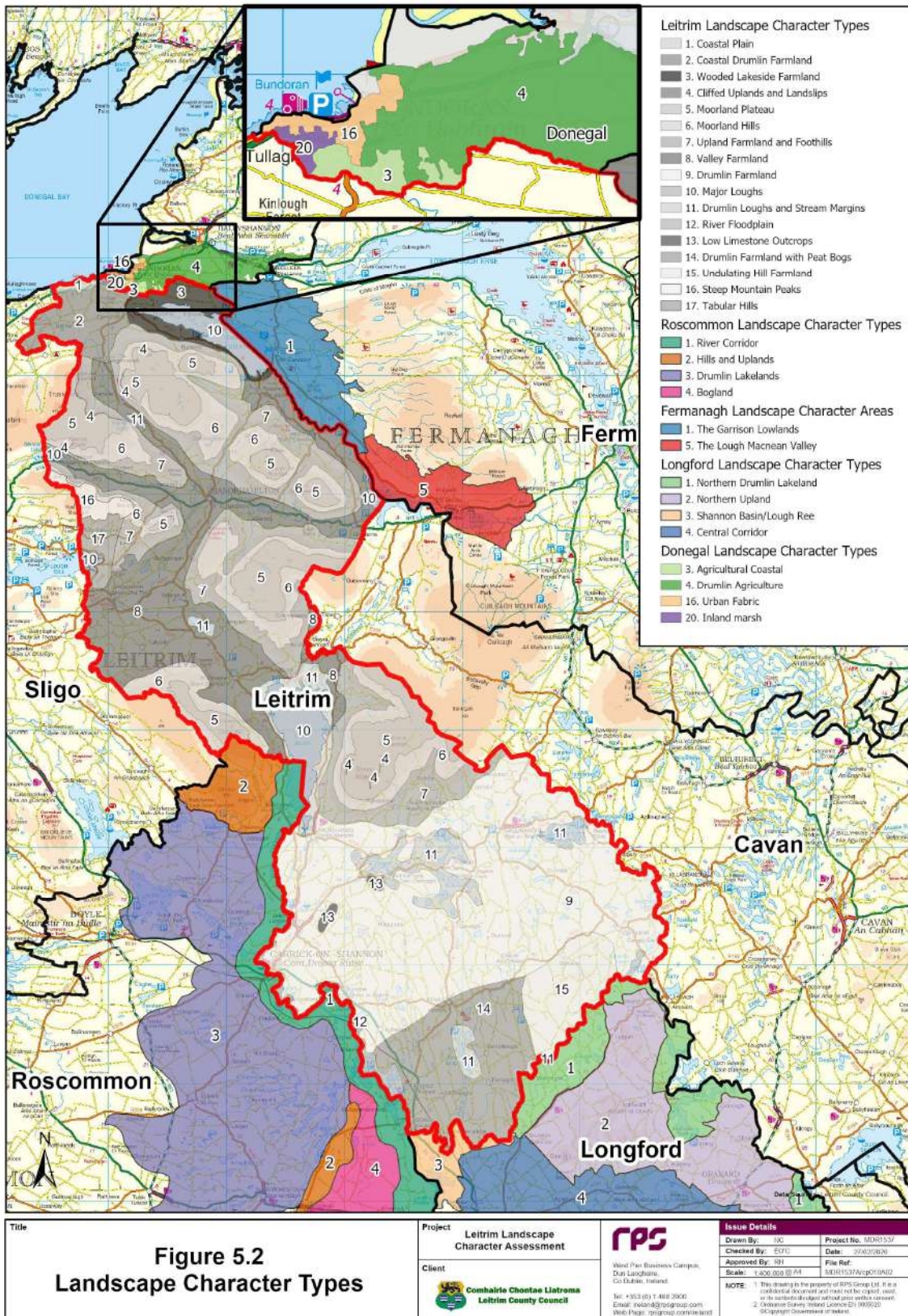


Figure 5-2: Landscape Character Types – Leitrim and Adjacent Counties

## 5.1 LCT 1. Coastal Plain

This LCT comprises a narrow strip of land located on the coastline which marks the County boundary to the north. It comprises marginal farmland some of which is established on grassy coastal sand dunes overlooking Donegal Bay.

The coastal edge follows a sinuous line and is comprised of low sandy, rocky cliffs. An extensive crescent shaped beach area extends from the eastern end near Tullaghan. A further stretch of coastline at the western end features beach extending from the mouth of the Duff River to the east. The outlook over the sea is relatively undeveloped in terms of visible marine activity and infrastructure. Views to sea are open and expansive with large skies and the distant views of mountain skylines associated with Derryveagh and Blue Stack Mountains in Donegal

At a local level, the views to sea are framed by the headlands associated with Mullaghmore Head to the west in County Sligo and Kildoney Point to the east in Donegal. In this regard, this particular seascape, as it occurs within Leitrim, could be considered, to sit within the broader seascape character type no. 8 Large Bay as defined in the seascape character assessment undertaken for the whole of Ireland, published in the SEA of the Offshore Renewable Energy Development Plan<sup>6</sup>. No. 8 Large Bay extends around Donegal Bay, the Leitrim Coastline and part of the Sligo Coastline. The coastal plain LCT in Leitrim lies adjacent to Seascape Character Unit 19, Donegal Bay in the County Donegal Seascape Character Assessment which extends from St John's Point to Bundoran.

The landward component comprises undulating rough pastoral farmland with a small-scale field pattern often comprised of long narrow rectangular fields aligned at right angles to the coast. Generations of farmers removing boulders from the fields has resulted in a dry stone wall landscape which is visually open due to the scarcity of trees, hedgerows and woodland. Woody vegetation comprises mainly short hedgerows and windblown hawthorns. Individual dwellings are dispersed throughout this landscape. Tranquillity is high except in the vicinity of Tullaghan where the noise of the traffic on the N16 can be faintly heard. The N16 runs through this landscape carrying traffic constantly. It provides access to the area for recreational visitors in the locality and those touring the Wild Atlantic Way.

---

<sup>6</sup> Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (ODREP) in the Republic of Ireland, Volume 4 Appendix A: Seascape Assessment, 2010, Sustainable Energy Authority of Ireland.





**Coastal Plain LCT near Tullaghan**

## 5.2 LCT 2. Coastal Drumlin Farmland

This LCT comprises a mosaic of cutover bog and farmland located between the coastal plain and the upland landscapes of Tievebaun and Arroo. The topography comprises gently rolling drumlin hills. The area features large tracts of bog and marsh interspersed with rough pasture and abundant areas of woody scrub vegetation including Willow and Birch. Areas of cutover bog have an abundance of Rhododendron (*Rhododendron ponticum*) infestation. Isolated patches of plantation coniferous forest are dispersed throughout. Pastoral farmland is present as a small to medium scale field pattern defined by hedgerows or post and wire fences. Some signs of dereliction are apparent in terms of dwellings, farm buildings and roads in poor condition. The landscape is relatively flat and visually open where wooded vegetation is absent affording views of big skies. The more open areas of this landscape are overlooked from the south by Tievebaun Mountain and in the east, by Arroo Mountain.



**Coastal Drumlin Farmland LCT overlooked by Tievebaun Mountain**

### 5.3 LCT 3. Wooded Lakeside Farmland

A gently undulating drumlin farmed landscape surrounds Lough Melvin. The farmland comprises mostly pasture with a small to medium scale field pattern usually defined by mature hedgerows. Tracts of deciduous woodland are dispersed throughout along with occasional large tracts of commercial forestry. The deciduous woodland is abundant and usually occurs as long linear tracts interspersed with farmland. Few roads penetrate this landscape and these tend to be straight and narrow, lined with hedgerows or low grass banks and in some cases, mature woodland or commercial forest. The extent of the woody vegetation cover is such that the landscape is quite visually enclosed in many places. In areas which are more open, where woodland cover is absent, views are afforded over Lough Melvin. Distant views are available to the skyline of Arroo Mountain.



**Wooded Lakeside Farmland LCT at Lough Melvin with the Garrison Lowlands in the distance**



## 5.4 LCT 4. Cluffed Uplands and Landslips

The Cluffed Margins, detached masses and landslips associated with this LCT were formed by the erosive action of glaciers and these are present in the landscape of today as distinctive and dramatic features such as that at Eagle's Rock. They usually occur below the moor topped uplands and can be seen as distinctive rock formations from within the major glens. Huge sections of the upper parts of the cliffs have broken off in places and have either slipped downwards leaving extensive scree and colluvial slopes, bare rock faces and cliffs which hang above the agricultural landscapes below. In other locations, the wear and tear of glaciation has resulted in the forming of hollowed out rockfaces or corries, of which fine examples are to be seen at Tievebaun Mountain in the north west. Land cover is typically sparse in these locations, although grassland has colonised some of the stabilised scree slopes.



**Cluffed Uplands and Landslips LCT at Eagles Rock**

## 5.5 LCT 5. Moorland Plateaus

The Moorland Plateaus is one of the most remote, elevated exposed and expansive landscape character types in Leitrim. It is generally characterised by smooth rolling landform with isolated steep escarpments and rocky cliffs at elevations exceeding 300 m AOD. Land cover is predominantly a mosaic of upland blanket bog and heath, with occasional sheep grazing. In some cases, the blanket bog is active in terms of peat formation whilst in other areas, it is degraded as a result of cutover activities and drainage. Localised erosion gives rise to crags and peat hags exposing the underlying rocks. Small upland loughs drained by streams are located throughout. The plateaus have a sense of wilderness and remoteness. These areas are visually open and their expansiveness is enhanced by the dominance and enormity of the sky. Few roads or tracks are present. Patches of commercial coniferous forestry feature in this landscape and in some locations, these plantations have eroded the moorland landscape character. Wind turbines are a recent feature in this landscape character type in the Corry Mountain area in particular. The mosaic of upland habitats are of significant nature conservation value. Colours are muted and monochromatic.



**Moorland Plateaus LCT in the vicinity of Slieve Anierin**



**Moorland Plateaus and Moorland Hills LCTs near Benbo**



## 5.6 LCT 6. Moorland Hills

The Moorland Hills are generally located between 200 and 300 m AOD and comprise relatively steep sided slopes leading up to the plateaus areas or mountain tops. These comprise marginal land with little or no hedgerow enclosure or field pattern. Hillsides generally allow long views across the surrounding lowlands except where woodland cover is extensive. Land cover is typically upland blanket bog, heather moor and unimproved grassland extensively grazed by free roaming sheep. Some field patterns are discernible as low earth banks and post and wire fences. Large tracts of plantation coniferous forest are dispersed throughout. Some deciduous woodland and scrub occupies the lower slopes. Fast rocky streams draining the upper peat bogs descend down through the hills and offer secluded steep sided valleys and ravines in which scrub and trees can thrive. The moorland hills are generally sparse in terms of settlement although tracks and roads are more frequent in this LCT than in the wilder moorland plateaus. Roads and tracks are often fringed by post and wire fences.



**Upland Farmland and Foothills LCT of the Slieve Anierin Complex.**

## 5.7 LCT 7. Upland Farmland and Foothills

This Upland Farmland and Foothills is located generally between 100 and 200m AOD and comprises a transitional landscape between the Moorland Hills and the more intensively farmed lowlands. This transitional landscape usually occupies the sides of the long U-shaped valleys that lie between the mountain uplands. Landform is diverse, ranging from gentle sloping foothills to steeper hillsides. Pastures are grazed within a patchwork of hedged fields which stretch up the hillsides often within distinctive linear formations. This hedgerow field pattern tends to become weaker with increasing elevation. Tree cover is sporadic. Plantation coniferous forests are located on many slopes, replacing marginal pastures. Many streams draining the hillsides cut narrow valleys which are often colonised by scrub and trees. Waterfalls are found where the streams cross harder layers of geology. Road routes extend along the length of the valley sides and afford views of opposite sides of valleys and mountain tops. A sparse network of minor, narrow roads wind through the hills extending from these routes. A higher proportion of settlement is located in these farmed areas when compared to the upper slopes of the Moorland Hills. Isolated farmhouses are often located at the end of long winding lanes.



**Valley Farmland LCT near the head of the Glenaniff River valley**



## 5.8 LCT 8. Valley Farmland

This LCT occupies the valley floor of the U-shaped glacial valleys associated with the glens in the northern half of the county. The local topography of the valley floor comprises drumlin hills although in some cases, the valley floor presents as a series of glacially formed terraces such as that associated with the Glenaniff River. Land cover comprises pastoral farmed with a strong field pattern defined by mature hedgerows. A small number of medium to large elongated lakes feature in these valleys. Occasional waterfalls empty into the valleys from the upland landscapes. Road routes, including regional roads extend along the length of the valleys linking towns and settlements. Open views towards dramatic mountain skylines are frequently available.



**At the head of the Glenade Valley**



## 5.9 LCT 9. Drumlin Farmland

The Drumlin Farmland occupies a large part of the southern part of the county and features a distinctive drumlin hill topography. The consistent orientation of the hills gives the landscape a uniform grain and has its origins from the direction of ice flows during glaciation. The pattern or grain can be difficult to appreciate, being masked largely by the abundant mature hedgerows which race up and down the hillsides forming a patchwork pattern usually of small-scale. The drumlins have steep sides with broad rounded tops although their size and shape vary considerably throughout. Land cover is generally pasture with marshy areas within the inter drumlin hollows. Patches of commercial coniferous forestry are dispersed throughout this landscape, some areas being fairly extensive in size. The plantation coniferous forest is a frequent feature and has become influential in the local landscape character.



**Drumlin Farmland LCT east of Derrynacross**

## 5.10 LCT 10. Major Loughs

The county features a number of large lakes, of which the largest ones include Lough Allen and Lough Melvin. These are generally located within lowland farmland. Regional roads and long distance footpaths follow closely the shoreline of Lough Allen from which panoramic views of this lake are attained along with the mountain backdrop of Slieve Anierin. The regional road south of Kinlough follows the margins of Lough Melvin from which panoramic views are available. The lakes are expansive featuring marginal wetland vegetation and wooded crannogs remain from ancient settlement.



**Major Loughs LCT - Lough Allen from the Leitrim Way (north of Drumshambo)**

## 5.11 LCT 11. Drumlin Lough and Stream Margins

This area comprises a gently undulating landscape with low rounded drumlin like hills interspersed with numerous small loughs and crossed by minor streams and ditches (drumlinised ribbed moraine). The loughs and streams are bordered by extensive areas of boggy, poorly drained pastures formed from clays deposited by streams. Areas of common reed, reedmace and bulrush occupy the margins of the loughs. These landscapes are particularly popular for passive recreation and a number of loughs are fringed by car parks and picnic sites. Crannogs occur within the larger loughs. The farmed land cover comprises pasture defined mainly by mature hedgerows but occasionally post and wire fences in lower lying wetter ground. Occasional views towards the mountain landscape of Slieve Anierin to the north are available. Tracts of commercial coniferous forestry are dispersed throughout and are a frequent feature in the landscape.



**Drumlin Lough and Stream Margins LCT - Lough Scur**



## 5.12 LCT 12. River Floodplain

This LCT comprises a flat, low lying pastoral river landscape associated with the Shannon. The river system comprises a number of loughs mostly connected with sluggish river sections. The drainage pattern features small feeder channels which drain the surrounding drumlin swarms and mountains. Water, both in the river channel and loughs, is an important landscape element. The meandering course of the Shannon is bordered by flat floodplains, gently sloping grazed banks, meadows and rough grazing. Landform is typically flat although slight undulations are present. Occasional floodplain trees such as Alder, Ash and Willow stand out as features. Pasture, grazed by cows in drier months, occurs in open fields bordering some stretches of the river. Field boundaries are typically defined by post and wire fences, often colonised by scrub species and ranker growth, giving the appearance of established hedgerows. There is virtually no settlement within this LCT. Roads are also generally absent. A small number of isolated houses do exist, occupying small undulating areas of land to escape flooding. These isolated dwellings tend to be accessed by narrow winding lanes and often enclosed by tall species rich hedgerows.



**River Floodplain LCT near River Shannon**

### 5.13 LCT 13. Low Limestone Outcrops

The hill farmlands of Sheebeg and Sheemore comprise distinctive limestone hills which rise above the surrounding lowlands. These are low in comparison to the mountainous areas but have a distinctive hilly profile when viewed from the surrounding lowlands thereby serving as focal points in the wider landscape. Shallow soils support grazing within fields defined by a network of stone walls in contrast to the surrounding lowlands where hedgerows are dominant. Woodland is restricted to steep slopes although hedgerow trees and isolated trees within pasture and scrub provide some cover. Historically these sites provided important vantage points and clusters of Megalithic tombs indicate that they had some form of ritual or strategic significance. The outcrops are largely unsettled. Houses are strung out along the roads fringing the lower slopes and isolated farmhouses and derelict farms at the end of narrow winding lanes can be found in sheltered areas on some hillsides. The distinctive ridge is the natural location for communication masts which gain visual prominence in this location.



**Low Limestone Outcrops LCT at Sheemore**



## 5.14 LCT 14. Drumlin Farmland with Peat Bogs

This LCT comprises a gentle, undulating landscape of grazed lowlands with elongated areas of raised bog. Many areas of pasture are overtaken by rushes due to under grazing. Long, narrow stretches of raised bog and elongated loughs occupy the hollows between low drumlin hills. Stands of Scots pine and other coniferous species occur, often on reclaimed/cutover peat bogs and on the margins of loughs. Road and settlement patterns are sparse and contrast strongly with the Drumlin Farmland LCT. The main arterial routes follow the top of hills and are lined with clustered small traditional farmsteads, often surrounded by small copses. Narrower roads bordered by drainage ditches cross the raised bogs and link the main arterial routes. These tend to be sparsely settled.



**Drumlin Farmland LCT near Keeldra**



## 5.15 LCT 15. Undulating Hill Farmland

The topography of this landscape comprises a ridgeline oriented in an east west direction at slightly higher elevation (c. 150m AOD) than the surrounding drumlin farmland. The distinctive rolling nature of the summit gives way to sloping sides fretted by numerous streams draining the uplands. Soils tend to be poorly drained. The land cover comprises pasture with a field pattern strongly defined by dense mature hedgerows.



**Undulating Hill Farmland LCT**

Minor roads cross the landscape and settlement is generally sparse with individual dwellings located along long winding lanes, fringed with tall rambling hedges. Where landform and land cover allow, extensive views over the surrounding lowlands or towards mountains are afforded. Occasional tracts of plantation coniferous forest occur within this landscape.

## 5.16 LCT 16. Steep Mountain Peaks

These steep sided mountain peaks have a smooth profile and small scree slopes create a distinctive, notched skyline. These occur as a result of particular geological conditions where a largely chert free form of limestone exists as mud banks forming rounded hummocky hills. Natural grassland is the predominant land cover with heath and plantation coniferous forests occupying gentler slopes. This LCT is remote with little or no access although viewed and enjoyed from the valley landscapes below.



**Steep Mountain Peaks LCT in the Crockauns**

## 5.17 LCT 17 Tabular Hills

This LCT features distinctive tabular hills formed from karstic weathering of cherty limestones in horizontal beds. Rough pasture and scrub occupy the tabular hills and grazing is located within the increasingly rush infested fields on gentler lower slopes. Scrub is most visible where it has colonised the flat top of the tabular hills and disguises the distinctive bedding planes. Deciduous woodlands and coniferous plantations are numerous on the gentler undulations. Settlement is sparse and restricted to a small number of isolated farms off main routes on narrow tracks and lanes.



**Tabular Hills LCT**



# 6 LANDSCAPE CHARACTER AREAS

County Leitrim is subdivided into fourteen Landscape Character Areas as illustrated in Figure 6.1 below.

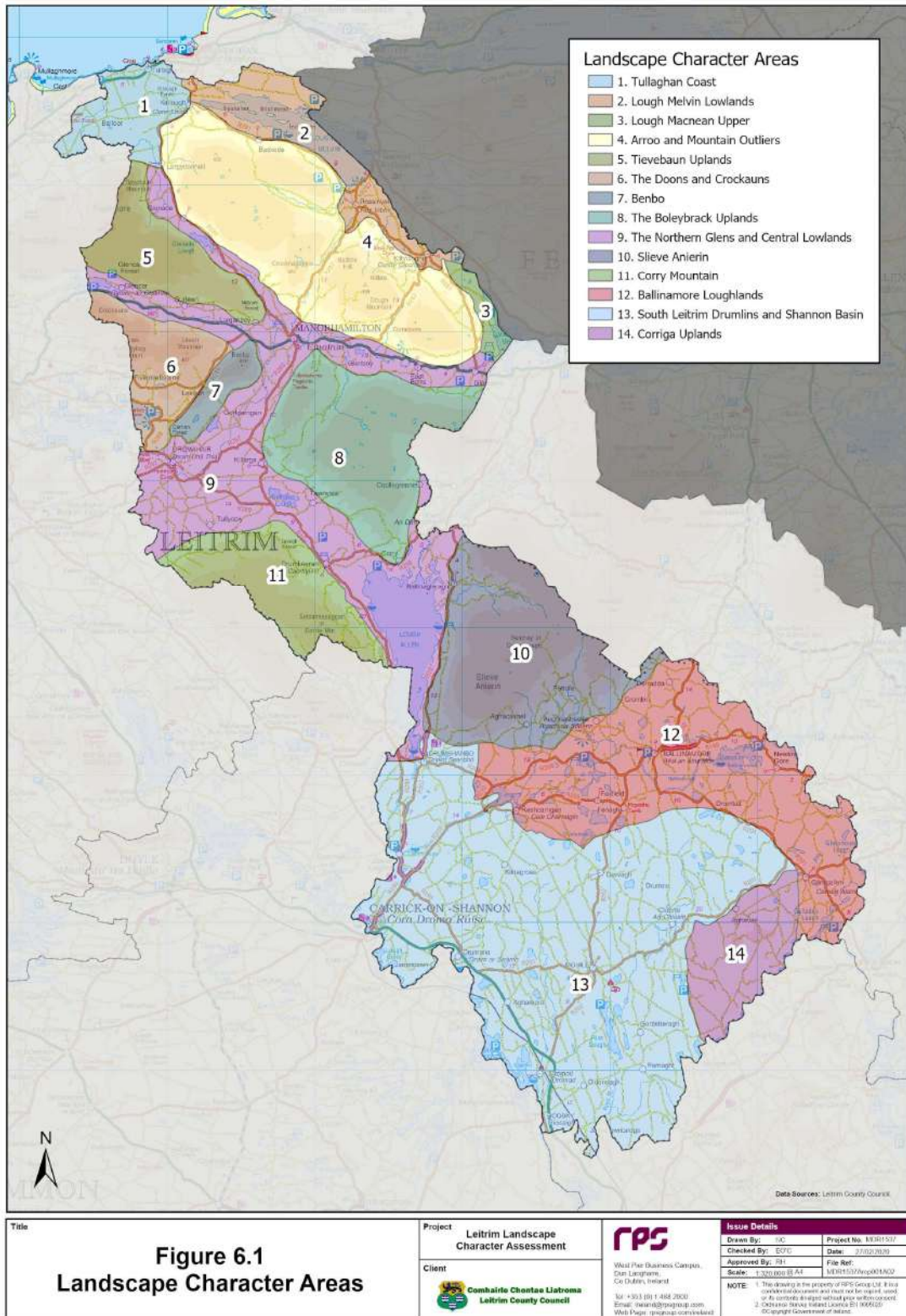


Figure 6-1: Landscape Character Areas Co Leitrim

For each of the Landscape Character Areas, a summary description and key characteristics are outlined below together with a map of the area. Further detail is presented in respect of valued landscape attributes, current landscape designations (Figure 6.2) landscape condition and forces for change.



Figure 6-2: Landscape Designations Co Leitrim



## 6.1 LCA 1. Tullaghan Coast

### 6.1.1 Landscape description

The Tullaghan Coast Character Area is located in the most northern part of the County and includes the only section of coast within County Leitrim. The landscape at the coast comprises gently undulating marginal farmland along the coastline featuring beaches, rocky shorelines and sand dunes with panoramic outlook over Donegal Bay. Further inland, drumlin farmland interspersed with peat bogs and areas of wooded and scrub vegetation feature throughout and is overlooked by the distinctive mountain profiles of Arroo and Tievebaun. The rocky coast, rolling farmland and raised peat bogs contrast dramatically with the mountainous region to the south and despite some long views, the landscape is relatively intimate.



### 6.1.2 Key Characteristics

Key characteristics are as follows:

- Gently undulating landform comprising stony moraines deposited by retreating ice sheet;
- Marginal agricultural land at the coast and on drumlin hills inland interspersed with raised peat bogs bounded by hedgerows and post and wire fences;
- Frequent tracts of woodland and scrub dispersed throughout along with hedgerows as enclosure inland;
- Tracts of commercial forestry are a notable feature inland;
- Stone walls enclose farmland at the coast;
- Settlements limited to small villages and individual dwellings dispersed along country lanes;
- Rural road network predominates, with the only major roads being the N15 and R280;
- Archaeological sites found primarily along the coastal edge, including Tullaghan Cross, numerous megalithic tombs, barrows and holy wells; and
- Panoramic views to the Tievebaun, Truskmore and Arroo Mountains in the south and over the sea towards Donegal Bay.





**Landscape Character at the Coast**



**Landscape Character inland from the coast.**

### 6.1.3 Geology and Landform

The northern part of this LCA is comprised of a coastal plain which shelves gently to low rocky cliffs and intertidal flats formed from boulders and pebbles. The undulating topography of the coastal area is formed from drumlins, kames and kame terraces, which are derived from the underlying sandstone and shale geology. Covering the hummocky mounds are well drained soils. In areas, most notably the area south of Tullaghan, the underlying bedrock is visible and has resulted in sandstone outcrops rising to 34 m AOD. Further inland, the underlying bedrock is comprised of limestone also dating back to the Palaeozoic and Carboniferous Period.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The coastal area comprises an undulating topography formed from drumlins kames and kame terraces dating back to the quaternary (drift) or glacial period. The glacially formed drumlin hills are derived from deposits of glacial till derived from Namurian and Carboniferous Sandstones and Shales. These generally align in an east west orientation. Further inland, extensive areas of cutover bog are present.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology features sandstone and mudstone from Palaeozoic and Carboniferous Period (Mullaghmore, Downpatrick and Clogher Valley Formations). Further south, limestones and calcareous shales, also from the Carboniferous Period are present.

### 6.1.4 Land cover

The coastal plain features pastoral farmland. The fields are commonly medium in size and boundaries tend to follow landform, accentuating the hummocky topography. They are enclosed by a combination of stone walls, hedgerows and post and wire fences. The condition of stone walls varies; a number are of relatively good condition, whilst others are in a poor state of repair, though bramble and scrub are often associated with both. Hedgerow vegetation is relatively sparse on the coast. Further inland, pastoral farmland is enclosed with mature hedgerow vegetation which confers a more wooded character to this part of the LCA.

**Corine Land cover 2018** (Environment Protection Agency, Corine Land cover map dataset 2018):

- Along the coastal plain, pasture features as the dominant land cover type. Further inland, extensive areas of raised peat bogs are present, within an agricultural landscape enclosed by mature hedgerows. Small areas of woodland are a frequent occurrence inland along with occasional tracts of commercial coniferous forestry.

### 6.1.5 Human Influences

Settlement is limited due to the extent of peat bogs but is typically located along long roads crossing the landscape or at the end of narrow winding lanes. Small clusters of houses exist on higher ground, a distinctive example being that surrounding the outcrop of sandstone at Gargrim. Tullaghan and Kinlough are the main villages and mark the junction of numerous roads. Dwellings located along the narrow hedged and walled road running parallel to the coast are typically small, brightly coloured bungalows with well maintained lawns and urban garden species. New houses frequently lie alongside old, derelict and overgrown stone cottages and barns.



**Brightly Coloured Dwellings in Tullaghan**

Areas of historic interest are most frequently found on land adjacent to the coastal edge and consist of numerous megalithic tombs, barrows and holy wells, perhaps representing the high ritual significance of the

landscape in prehistory. Today, located within the Tullaghan area is a church, positioned to allow views over the coast and out to sea. The Tullaghan Cross, believed to have come from an ancient monastery on the shore of the River Drowes in the 11th or 12th century, is also located within this area, north of the N15 and west of Tullaghan. It was recovered in 1770 from the sea and erected by the local landlord. North of Tullaghan lie the remains of a castle overlooking the Atlantic Ocean which was destroyed in 1641.

Telecommunications are conspicuous within the landscape due to their height and location in the gently undulating landform. Also sand and gravel extraction activities are apparent in limited places.

## 6.1.6 Landscape Evaluation

### 6.1.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A1 The Coast** – covering the landscape along the coastline overlooking Donegal Bay;
- Area of High Visual Amenity (AHVA) **B1 The Coastal Plain** - covering the landscape south of the Drowes River and along the N15 Road Corridor;
- Protected views and prospects V1 - View towards Donegal Bay from N15 and Local Roads LP02059-1, LP02059-2, LP02059-3, LS06058-0, LS06059-0, LS06001-0 and LS06071-0; and
- Protected views and prospects V2 - View from Local Road LS060491-0 toward Truskmore and Kings Mountain.

### 6.1.6.2 Valued and Sensitive Attributes

- Panoramic expansive views at the coastline of Donegal Bay;
- Panoramic views available at point locations inland towards Tievebaun, Truskmore and Arroo Mountains;
- Relatively rural and undeveloped landscape with sense of tranquillity;
- The coastal location is enjoyed for its scenery and is promoted as a visitor attraction on the Wild Atlantic Way; and
- Time depth apparent in the presence of stone walls and archaeological sites at the coast.

### 6.1.6.3 Landscape Quality, Condition and Sensitivity

This landscape has a particular and unique scenic quality especially at the coastline due to its outlook over Donegal Bay and further inland within the setting of Arroo and Tievebaun Mountains.

The farmed landscape is in a variable condition. In parts of this landscape, there is extensive scrub invasion, hedgerow loss and replacement with post and wire fences, derelict stone cottages and un-maintained stone walls. Elsewhere however, farming activities and settlement in the form of scattered dwellings and villages, especially along the coastal road, confer a sense of activity.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

Parts of this LCA are considered to be very sensitive to built development, particularly in bogland areas, along the coast, and within the setting of the mountains further south.

Although the landscape currently appears relatively well wooded, featuring hedgerows, hedgerow trees, small plantings of coniferous and broadleaf woodlands, it is considered to be sensitive to change due to the visual openness and outlook to the coast and Donegal Bay and also due to the visual relationship with the mountains.



#### 6.1.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are a relatively recent introduction to the drumlin landscapes inland which have the potential to alter the landscape character;
- Development in the form of housing along and close to the coast is apparent although not yet reached a scale which results in fundamental change to coastal character. Increased development in the form of housing and other infrastructure will be a future force for change in this area especially if and when it becomes a popular destination for visitors and holidaymakers;
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows; and
- Spread of existing *Rhododendron (Rhododendron ponticum)* infestation in cutover bog which will reduce the biodiversity value of the habitat.

#### 6.1.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Traditional stone wall and hedgerow boundaries are preferable to post and wire fences;
- Conserve the landscape at the coast including outlook towards Donegal Bay;
- Scale of future development to have regard for open rural and tranquil character; and
- Management and control of invasive alien plant species (IAPS).

## 6.2 LCA 2. Lough Melvin Lowlands

### 6.2.1 Landscape description

The Lough Melvin Lowlands Character Area is located in the north eastern part of the County and is an extension of the Garrison Lowlands landscape character area in County Fermanagh. The area is defined by the Drowes, Bradoge and County rivers to the north, Lough Macnean Upper in the east, the uplands of the Arroo Mountain and Outliers character area to the south and the Tullaghan Coast character area to the west. Small patches of deciduous woodland are dispersed throughout and this combined with the mature hedgerows that enclose farmland result in a farmed landscape that is abundant in wooded cover. Patches of commercial coniferous forestry are dispersed throughout. The landscape is intimate and generally well maintained. It is visually enclosed due to undulating landform and dense hedgerows. However long views to the surrounding Arroo Mountains are attained from higher drumlins and ridges. Panoramic views are also available at key points along roads towards Lough Melvin.



### 6.2.2 Key Characteristics

Key characteristics are as follows:

- Highly valued lake-land scenery around Lough Melvin;
- Long rounded hills and gentle ridges with small rivers between;
- Small-scale rectilinear field pattern especially in areas close to the lake;
- Fields enclosed with mature hedgerows, rush infested pastures and herb-rich hay meadows;
- Frequent tracts of commercial forestry of varying size and scale;
- Small-scale settlement of old cottages along roads and more modern dwellings aligned along minor roads;
- Views inland towards mountain landscapes including Arroo and Sheenun; and
- Black Pig's Dyke, an important Iron Age linear earthwork.



## Lake-land Farmland Landscape Character



**Wooded pastoral farmland with views inland to Arroo Mountain**

### 6.2.3 Geology and Landform

The gently sloping topography to the north of Lough Melvin is formed from the underlying sandstone and shale bedrock. Streams draining into Lough Melvin and the surrounding rivers have shaped the underlying geology into a number of gentle ridges orientated east to west. To the east of Lough Melvin these ridges give way to limestone geology which has become overlain by long rounded hills or drumlins which were formed from glacial deposits. Boulder clay or glacial till was deposited and moulded into drumlins or hillocks oriented broadly west to east in the direction of the ice flow. Many streams drain the uplands, weaving between the drumlins and flow through a number of small loughs, bogs and wet meadows. Soils tend to be poorly drained with a limited use range most suited to forestry or light stock grazing.

#### **Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- These drumlin hills comprising deposits of glacial till are derived from Namurian and Carboniferous Sandstones and Shales.

#### **Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of this LCA features viséan mudstone and sandstone from the Palaeozoic and Carboniferous Period (Mullaghmore, Downpatrick and Clogher Valley Formations).



## 6.2.4 Land Cover

The landscape surrounding Lough Melvin comprises mostly pastoral farmland enclosed with mature hedgerow vegetation resulting in a strongly defined field pattern. Patches of mixed forestry and deciduous woodland and scrub are dispersed throughout. Some larger plantations of coniferous forestry are present<sup>7</sup>.

Between the drumlin hills and alongside streams, peaty soils have developed which have largely been drained for pasture or woodland although small remnants of raised peat bog survive. Woodlands are moderately sized and the dense, largely unmanaged hedgerow network gives the sense of a well wooded landscape. Lough Melvin is a key landscape and wildlife feature, and supports four distinct trout species in addition to Salmon, Char and Perch.

**Corine Land cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Land cover comprises principally agriculture (pasture) with significant areas of woody vegetation. Some areas of commercial coniferous forestry are present. Small areas of mixed species forestry are present.

## 6.2.5 Human Influences

There is little evidence of prehistoric and historic farming activity in this landscape and this is likely to be due to the poor quality of the soil. During the Iron Age the area represented a frontier between the ancient provinces of Ulster and Connaught. The boundary is marked by the early Iron Age earthwork, Black Pig's Dyke, which was constructed as two parallel earthen banks with a median ditch. Stretches of the earthwork, which weaves through the drumlins to the south of the County River, are still visible in the landscape. Evidence of early Christian activity may be found at Rossinver where a sixth century monastic site is said to have been established by St Aiden (also known as St Mogue). A cross-inscribed slab in the graveyard is the sole reminder of the early monastery.

Other early settlement includes a number of crannógs on Lough Melvin. Later features include other islands on Lough Melvin such as MacClancy's Island (Rossclogher), where nine Spaniards, survivors of the Armada, took refuge from a siege by Fitzwilliam 1588. Another valued feature in this area is the birthplace and homestead of Sean MacDiarmada at Laughty Barr in Kiltyclogher.

The modern landscape of dispersed settlement, enclosed fields and wooded areas largely dates to the nineteenth century. Land use is dominated by small, enclosed rush-infested pastures. Herb-rich hay meadows are common, due to traditional, low intensity farming methods. In larger, well drained and gently sloping fields small-scale silage production is evident. Fields are separated by overgrown hedgerows or by hedge banks with low trees and shrubs and some post and wire fences. A dense hedgerow network gives the sense of a well wooded landscape at distance. In the areas comprised of extensive flat pastures, post and wire fences demarcate wet pastures, which are increasingly becoming colonised by gorse and scrub. Small-scale settlement, a mixture of modern bungalows and houses and older whitewashed cottages, is dispersed along roads. On the gentle slopes of Lough Melvin, roads run along the grain of the landscape formed by the ridges with houses either along the course of the road or on short tracks running at right angles to the main routes. In the drumlin areas, roads weave between the undulations, with houses occupying their lower slopes. Small towns such as Rossinver and Kiltyclogher tend to be located at road junctions and river crossings

---

<sup>7</sup> Environment Protection Agency, Corine Landcover map dataset 2019

## 6.2.6 Landscape Evaluation

### 6.2.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A2 Lough Melvin North** – covering the landscape associated with the northern shores of Lough Melvin; and
- Area of High Visual Amenity (AHVA) **B2 Lough Melvin, Glenaniff River and Environs** – covering the landscape associated with the southern and western shores of Lough Melvin.

### 6.2.6.2 Valued and Sensitive Attributes

- Panoramic expansive scenic views of Lough Melvin;
- Relatively rural and undeveloped landscape with sense of tranquillity; and
- Archaeological features such as the Black Pig's Dyke are valued historic elements.

### 6.2.6.3 Landscape Quality, Condition and Sensitivity

This landscape has a unique scenic quality especially in the vicinity of Lough Melvin from which panoramic views are available of the lake and landscapes further afield. Further inland from the lake, extensive woodland, scrub and dense hedgerow is present resulting in an small-scale field pattern. The sense of enclosure confers a remote and tranquil quality to the landscape.

The condition of the landscape is adversely affected in places by commercial coniferous forestry and derelict farm buildings and dwellings. Extensive areas of commercial coniferous forestry have resulted in the loss of hedgerows, pasture and field patterns and thus, key landscape characteristics have become eroded. Plantation coniferous forestry also obscures stretches of the Black Pig's Dyke and tree roots threaten delicate archaeological remains. Where large forestry blocks exist on undulating landform, large scale felling leaves significant areas of the landscape scarred.

In areas where commercial coniferous forestry is absent the landscape is in relatively good condition as evidenced by the strong field patterns defined by a dense hedgerow structure.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The more open areas of this landscape are sensitive to change, in particular around Lough Melvin and also the areas within the setting of adjacent uplands such as the Arroo Mountain.

### 6.2.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are a relatively recent introduction and are a dominating landcover in the vicinity of Lough Melvin. The original lakeside landscape character is much eroded as a result; and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

## 6.2.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Traditional hedgerow boundaries with native species are preferable to post and wire fence boundaries in order to conserve landscape pattern;
- Conserve the landscape at the the shoreline of the lake including outlook towards Garrison Lowlands;

## REPORT

---

- Scale of future development to have regard for the scale of the field pattern in the landscape; and
- Management and control of invasive alien plant species (IAPS).



## 6.3 LCA 3. Lough Macnean Upper

### 6.3.1 Landscape description

The Lough Macnean Upper Character Area is located in the north east of the County and is an extension of the Lough Macnean Valley in County Fermanagh. It is defined by the Garrison Lowlands to the North and the Lough Macnean valley to the south-east which includes Lower Lough Macnean (both within County Fermanagh). Thur Mountain (part of Arroo & Mountain outliers) dominates upland views to the west. The Esky River defines the southern edge of this area, along the County Boundary. Long views are afforded across and along Lough Macnean Upper from the shores. The source of Lough Macnean Upper is in the Thur Mountains. The shoreline constitutes wooded promontories and sheltered bays with reed swamps and fen and carr woodland. The fields around this shoreline display evidence of rush infestation and overgrown hedges. Tracts of commercial coniferous forestry are dispersed throughout, some of which are extensive and have eroded the farmed field pattern. Generally small farm units support cattle and sheep grazing.



### 6.3.2 Key Characteristics

Key characteristics are as follows:

- Highly valued lake-land scenery at Lough Macnean Upper;
- Extensive estate forestry and woodland around lough shore and Glenfarne Demesne;
- High quality lake flora and fauna;
- Traditional settlement pattern;
- Number of significant archaeological features;
- Fields separated by hedgerows;
- Extensive areas of commercial coniferous forestry; and
- Distinctive sculpture trails at Lough Macnean Upper.



**Lake-land Farmland Landscape Character**

### 6.3.3 Geology and Landform

Lough Macnean Upper and Lower were formed as a result of glaciation which scoured deep basins in a variety of Carboniferous rocks. Upper Carboniferous rocks form the bedrock in this area, and the dominant surface geology is sandstone and limestone. During the glacial period approximately 17,000 years ago, boulder clay was deposited and moulded into drumlins or hillocks in the direction of the ice flow. This ice flow migrated towards what is now County Cavan, and the drumlins around Glenfarne radiate from the Cavan border.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The drumlin hills, comprised of deposits of glacial till, are derived from Namurian and Carboniferous Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology beneath this glacial landscape features limestone and calcareous shales from the Carboniferous period. Viséan mudstone, sandstone and evaporites are also present from the Palaeozoic and Carboniferous Period (Meenymore Formation).

### 6.3.4 Land Cover

The main land cover is comprised of farmland. It is a very wooded landscape overall due to the extensive mature hedgerow network. There is some evidence of older stone walls and in places, hedgebanks. Lough Macnean Upper is a known location for coarse fishing.

**Corine Land cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The landscape surrounding Lough Macnean Upper comprises agricultural land enclosed with mature hedgerow vegetation and featuring patches of deciduous transitional woodland and shrub. Areas of peat bog occur in the northern part of the LCA along with some larger plantations of coniferous forestry.

### 6.3.5 Human Influences

Black Pig's Dyke extends between Lough Melvin and Lough Macnean Upper. It is a linear earthwork feature comprised of a double earth bank with median ditch. Other ancient features include a sweathouse and standing stones near Annagh and a crannóg on Lough Macnean Upper.

Glenfarne Demense is part of the former Tottenham Estate, occupied by the Tottenhams in 1780 and later abandoned in about the year 1919.

Current settlement is post famine, and scattered dwellings are most frequently found parallel to the shores of Lough Macnean Upper, along the Kiltyclogher- Glenfarne road or on narrow tracks running at right angles to this road. Houses are a mixture of traditional whitewashed cottages, two storey farmhouses and modern bungalows.

### 6.3.6 Landscape Evaluation

#### 6.3.6.1 County Landscape Designations, Views and Prospects

- Area of High Visual Amenity (AHVA) **B5 Lough Macnean Upper and Environs** – covering the landscape associated with the western shores of Lough Macnean Upper.

#### 6.3.6.2 Valued and Sensitive Attributes

- Panoramic expansive scenic views of Lough Macnean Upper;
- Relatively rural and undeveloped landscape with sense of tranquillity; and
- Archaeological features such as the Black Pig's Dyke are valued historic elements.

#### 6.3.6.3 Landscape Quality, Condition and Sensitivity

This landscape has a particular and unique scenic quality especially in the vicinity of the Lough and in farmland areas within the setting of Thur Mountain in the adjacent LCA. This area has a number of sensitive landscape elements including loughs and shorelines, woodlands and grassland. The dense vegetation both around the shores of Lough Macnean Upper and within the field boundaries results in an intimate and tranquil landscape.

The condition of the landscape varies. Its true character, expressed in field patterns defined by hedgerows, has been greatly eroded in places by large tracts of commercial coniferous forestry. In the southern part of the area, these obstruct views to the lough. There is evidence of agricultural decline in parts with rush and scrub infestation and a number of derelict dwellings and farmsteads.

The landscape is valued as recognised in the County Designation and the valued and sensitive attributes documented above.

The LCA is considered to be sensitive to change especially in the vicinity of Lough Macnean. The areas close to the Lough, including shorelines, inlets and islands are very sensitive to change generally. This is due to their visual openness, sense of tranquillity and remoteness as well as biodiversity value. The lough supports a wide range of fish species and is surrounded in a large part by the Glenfarne Demense, which is an important amenity area.



#### 6.3.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Coniferous forestry plantations are a relatively recent introduction which have the potential to further erode the underlying landscape character; and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

#### 6.3.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Traditional stone wall boundaries and hedgerow boundaries are preferable to post and wire fences;
- Conserve the landscape at the coast including outlook towards Donegal Bay;
- Scale of future development to have regard for open rural and tranquil character; and
- Management and control of invasive alien plant species (IAPS).

## 6.4 LCA 4. Arroo and Mountain Outliers

### 6.4.1 Landscape description

The Arroo and Mountain Outliers Character Area is a large mountain complex which rises above Lough Melvin, Glenade and Lough Macnean Upper. It has contrasting elements of moorland plateaus, moorland hills and farmed slopes. The area is dominated by Arroo Mountain, which rises to 523m AOD. Other summits include Sheenun, Dough Mountain and Thur Mountain reaching 421, 462 and 410 m AOD respectively. These summits are separated from each other by high, remote, settled valleys. The range and quality of habitats and the variety of rare species has resulted in Arroo Mountain being designated as a Special Area of Conservation and proposed Natural Heritage Area and along with Ben Bulbin has been called the botanically richest mountain in Ireland. The moorland plateaus associated with these mountains is remote and relatively inaccessible although appreciated visually from the valleys below and lowland areas further south. Field pattern is generally absent at the higher elevations. On lower slopes, field pattern is defined by hedgerows and in some cases post and wire fencing. The screening effect of hedgerows and woodlands creates more intimate landscapes.



### 6.4.2 Key Characteristics

Key characteristics are as follows:

- Series of moorland plateaus with intact blanket bogs, heath and small loughs;
- Distinctive rock outcrops especially on the north facing slopes of Arroo;
- Remote, isolated and windswept character in upland areas with limited access;
- Steep-sided moorland hills with extensive views over the surrounding drumlin farmland and coastal lowlands;
- Contrasting land cover on mountain sides including hill and lowland farmland, forest, heath and blanket bog;
- Commercial forestry plantations dominate the land cover on Dough and Thur Mountains;
- Small-scale wind farm development on Saddle Hill;
- Field boundaries create strong patterns on lower hill slopes and show signs of dereliction in places;
- Distinctive upland valleys shelter small farming communities;
- Semi-natural woodlands on steeper slopes, in cloughs and around farms;
- Concentration of dwellings and farms along roads which occupy lower slopes and follow contours; and
- Traditional farm cottages with outbuildings scattered along roads fringing the upper limits of farmland on hillsides and in high valleys.



The Upland Landscape of Arroo Mountain

### 6.4.3 Geology and Landform

Arroo and Sheenun represent the most easterly part of the limestone mountains of the Ben Bulbin complex and share many geological similarities. However, they form a continuous character area with the lower Thur and Dough Mountains to the east which are largely formed from sandstone and shale. These two geological units are separated by a fault line associated with a continuation of the gneiss geology of the Ox Mountains and Benbo. On the surface this is marked by a high valley created by the Ballagh and Owenbeg Rivers which drain into Lough Melvin and into the River Bonnet. The high moorland plateaus are gently domed units and fall, often steeply, to lower, gentler slopes. In places post-glacial slippage of sections of limestone cliffs has formed interesting geomorphological features.

On Dough and Thur Mountains, sandstone and shale predominate, creating smoother profiles and a gentler plateaus landscape. Rocky streams draining off the sodden hills have cut narrow valleys. Waterfalls tend to be found where streams cross harder layers. Fowley's Falls, a series of cascades on Glenaniff River are one of the best known of these features. Stronger streams have eroded distinct upland valleys, which offer natural routes for communications through the mountains. The lower hill slopes and valleys are more gently sloping and shelve gradually into the drumlin farmland, glens and loughs which fringe the upland. Aughty Series peat soils occupy the moorland plateaus and hills. On the lower slopes, there are gley soils originating from the underlying bedrock.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The most elevated areas of this landscape features bedrock outcrop present as mountain plateaus with blanket peat land cover. At lower elevations, much of the LCA features deposits of glacial till dating back to the quaternary (drift) or glacial period. These deposits are present in the landscape of today as rounded drumlin hills and are derived from Namurian Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of the Moorland Plateaus features mudstone, sandstone and evaporite from Palaeozoic and Carboniferous Period (Meenymore Formations). Limestone and Calcareous shales occur at lower elevations, these also dating back to Palaeozoic and Carboniferous Period.

### 6.4.4 Land Cover

The upland plateaus areas are covered by a mosaic of heath and blanket bog. On Arroo Mountain, the undulating limestone and sandstone plateaus is speckled with numerous small upland loughs. The fringes of many bogs show signs of cutover bog where peat was extracted by hand. Elsewhere overgrazing and climatic conditions have caused the loss of bog and the exposure of underlying bedrock.



On the summit of Arroo, numerous specialist habitats have evolved; swallow holes have been colonised by willow, holly and ash and the almost vertical limestone cliffs and slips are home to a number of very rare species of arctic- alpine vascular plants and bryophytes. There is a gradual transition off the moorland plateaus from open moor to grazed hillsides where steep smooth slopes retain fragments of scrub woodland, often associated with deep gorges and streams. On a number of slopes long linear earthworks indicating landholdings are also increasingly becoming colonised by scrub. The lower, gentler slopes and upland valley pastures enclosed by a network of bushy hedgerows. Many fields are improved, however rush infestation is conspicuous in many areas. Large proportions of the moorland hill slopes and lower gentle farmed slopes on Dough and Thur Mountains feature large tracts of commercial coniferous forestry in regular blocks of uniform age. These tend to mask the underlying features and varied terrain which are crucial in the appreciation of the landscape.

**Corine Land cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Extensive areas of peat bog occur in the upland plateaus. At lower elevations, agricultural land, comprising pasture is dispersed throughout along with patches of woodland and scrub. Plantations of coniferous forestry feature in the southern part of this LCA.

### 6.4.5 Human Influences

The limited number of sites and monuments suggests that these high mountains have little history of settlement. A small number of megalithic monuments fringing the uplands and raths on lower slopes indicate some activity. Megalithic tombs, enclosures and long cairns were found at Aghamore, above Glenade. In addition, there are several mass rocks and a number fairy and other prehistoric forts within this area and Glenade Lake is associated with the legend of the Dobharchu (water dog).

Population increases in the nineteenth century forced more marginal land to come into production and gradually small farms were established on hillsides at increasing altitudes although it is likely that before this time the mountains were used for extensive grazing, domestic peat cutting and stone extraction. Stone circles on the uplands may have been used as sheep holding pens.

The consolidation of farming units by the CBD established the current pattern of settlement and field boundaries. Pasture is largely concentrated on the gentler, lower slopes and along the upland valleys where there is a network of hedged and walled fields and small farms. Field patterns are a distinctive feature of many slopes. Strong linear features stretch up towards the open upper slopes and contain an intricate patchwork of small fields. This pattern is particularly well preserved on the northern slopes of Sheenun.

Elsewhere hedgerow loss makes the pattern less evident although the survival of low hedgebanks ensures that the pattern remains discernible. Farms are generally worked at low intensity with a predominance of rough, rush infested pasture. Settlement is concentrated on the lower slopes with individual dwellings including small whitewashed farmhouses being loosely clustered on roads which fringe the lowland and cross the mountains through the upland valleys. Many are associated with small corrugated barns. The upper, steeper slopes are generally extensively grazed by sheep however post and wire fencing and banks and ditches demarcate the perimeter of some landholdings. A number of bog and forestry roads, which are quite inaccessible, extend up the mountain towards the moorland plateaus which is largely devoid of roads and tracks and as such is largely un-disturbed and remote.

### 6.4.6 Landscape Evaluation

#### 6.4.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A3 Arroo, Glenade, Truskmore, Glencar and environs** – the area specifically associated with Arroo Mountain and environs is located within this LCA;

- Area of High Visual Amenity (AHVA) B2 Lough Melvin, Glenaniff River and Environs – specifically the landscape associated with Sheenun;
- Area of High Visual Amenity (AHVA) B3 Dough Mountain;
- Area of High Visual Amenity (AHVA) B4 Thur Mountain;
- Views and prospects V3 View towards Lough Melvin and Donegal Bay from Local Road LS06094-1 and LS06094-2;
- Views and prospects V4 View of Lough Melvin from Aghavoghil;
- Views and prospects V5 View of Loughs Melvin and McNear from Loughross Bar (Local Road LS06197);
- Views and prospects V6 View towards Glenade Lake and valley from R280; and
- Views and prospects V11 View towards Lough McNear from Local Roads LT61842-1, LT61842-2, LT61843 and LT61961.

### 6.4.6.2 Valued and Sensitive Attributes

- Cliffs and landslips are unique striking features;
- The upland plateaus are isolated, exposed, wild and bleak landscapes;
- Sense of remoteness with dark skies;
- Dramatic glacially formed valleys are relatively unspoilt landscapes; and
- Striking panoramic views from upland areas towards valleys and glens.

### 6.4.6.3 Landscape Quality, Condition and Sensitivity

The upland part of this landscape, comprised of mountain moorland, features remote, wild, windswept and relatively undeveloped areas which have a particular unique scenic quality.

This landscape is generally considered to be in good condition albeit with some signs of dereliction in the lowland farmed areas where post and wire fences have replaced hedgerows. Wind turbines in the vicinity of Saddle Hill confer a developed character to this particular area which affects the underlying landscape character. The extensive and largely inaccessible plateaus are generally in good condition although overgrazing and peat extraction threatens delicate and sensitive habitats. The condition and true character of the landscape around Dough Mountain is considerably undermined by extensive commercial coniferous forestry. This has eroded the key landcover characteristics such as vegetation patterns and field boundaries.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The areas of moorland plateaus are particularly sensitive to change owing to the distinctive character of the mountain skylines, scenic quality, wilderness like quality and visual openness. These landscapes present as distinctive skylines and landmarks viewed from much of the surrounding lowlands. They are sensitive to changes which would interfere with important unique skyline views available from the lowlands.

### 6.4.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are a dominant element, in particular, in the vicinity of Dough Mountain and Saddle Hill;
- Areas of search for wind turbines have been identified within this LCA according to the ~~Draft~~ Leitrim Renewable Energy Strategy indicating potential for future development in the form of additional wind

farms and single wind turbines. This would need to have regard to the sensitive upland landscapes and cliff slopes together with the adjacent lowlands including Lough Melvin and Glenade Valley;

- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows; and
- Further peat extraction will reduce the biodiversity value of this LCA.

### 6.4.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Traditional stone wall boundaries and hedgerow boundaries are preferable to post and wire fences;
- Manage peat extraction and other activities to conserve the moorland and mountain habitats. Maintain ecological value of habitats by establishment of a sustainable grazing regime on the mountains;
- Retention of open areas of mountain moorland, heath and grassland. Retain views to and from these mountain skylines and lowland farmland; and
- Management and control of invasive alien plant species (IAPS).



## 6.5 LCA 5. Tievebaun Uplands

### 6.5.1 Landscape description

Tievebaun is a large mountainous upland which is an extension of a limestone mountain range associated with Ben Bulbin, Truskmore and Kings Mountain in County Sligo. Within Leitrim, these mountains overlook the Glenade Valley to the north and The Glencar Valley to the south. The more elevated areas comprise moorland plateaus which is a wild, remote and largely inaccessible landscape. The scree slopes and landslips fringing Glenade and Glencar are highly visible from the lowlands and contribute significantly to the scenic quality of the glens.



### 6.5.2 Key Characteristics

Key characteristics are as follows:

- Wild, remote and largely inaccessible moorland plateaus;
- Varied and highly valued habitats;
- Distinctive mountain profile visible from neighbouring lowlands;
- Extensive views of the surrounding lowlands;
- Steep glacially scoured corries are distinctive geological landforms overlooking the valley at Glenade. Steep Cliff features overlooking the valley at Glencar;
- Possibility of extensive evidence for prehistoric settlement;
- Largely unsettled except for limited settlement on the gentler slopes to the south east;
- Small-scale wind farm development in the foothills near Carrickeeny; and
- Tracts of commercial forestry on the lower slopes to the north east.



**Upland Landscape of Tievebaun**

### 6.5.3 Geology and Landform

The moorland plateaus is almost entirely flat or gently undulating and largely formed from hard Dartry Limestone although on the higher peaks small remnants of sandstone cap survive. Beneath the Dartry Limestone is the Glencar Limestone, consisting of alternations of limestone and softer shale bands which in turn sit on the softer shales. An apron of scree consisting of fragments of limestone derived from the erosion of the cliffs by freeze thawing forms the lower, grassy slopes which themselves lie above the lowland drumlins.

At lower elevations near the valleys, much of the LCA features deposits of glacial till dating back to the quaternary (drift) period. Corries feature in the northern part of the LCA (Gortnagara North and Gortnagara South). These comprise distinctive concave shaped rock outcrops formed from the erosive action of ice during the glacial period<sup>8</sup>.

During glaciation the entire area was overlain by ice. However in lower levels its flow was directed by pre-existing topography and was forced to gouge out the landscape on the north and south sides of the mountain and neighbouring uplands into classic U-shaped valleys. Towards the end of the glaciation, the ice grew thinner and ice flows were channelled through these valleys shaping them even further. As the ice melted, large-scale landslips occurred as the valley walls lost the support that had been provided by the ice. As a result, steep scree slopes, cliff scarps and hanging masses are conspicuous features of glaciation on the northern and southern slopes of the mountain facing onto Glenade and Glencar. The Swiss Valley, a 'dry valley' is a mass of rock which became detached from the uplands and is a dramatic landform feature on the northern slope of Glencar.

#### **Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The most elevated areas of this landscape features bedrock outcrop present as mountain plateaus with blanket peat land cover. At lower elevations near the valleys, much of the LCA features deposits of glacial till dating back to the quaternary (drift) or glacial period. These deposits are derived from Namurian Sandstones and Shales.

#### **Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of a part of the the Moorland Plateaus features mudstone and evaporite from Palaeozoic and Carboniferous Period (Meenymore Formations). Limestone and Calcareous shales occur throughout most of this LCA at lower elevations, these also dating back to Palaeozoic and Carboniferous Period.

<sup>8</sup> Geological Survey of Ireland, Mountain Glaciation Corries map dataset 2017

## 6.5.4 Land Cover

The upland plateaus areas feature a mosaic of blanket bog and heath, which in places has been eroded to expose the underlying bedrock. Cutover peat is also evident between Truskmore and Tievebaun where machine cutting has occurred. Peat hags and gullies have formed in places and break up extensive areas of peat on the summit. Surrounding the plateaus extensively grazed natural grasslands extend up the steep slopes with scree slopes and cliffs indicating the nature of the underlying geology. Scrub has become established on some slopes and in valleys formed by streams which drain the uplands. Where this scrub is established, sheep shelter and cause localised poaching damage. On gentler, lower terrain surrounding the mountain but most extensively on the gentler lower slopes, small pastures enclosed by hedgerows have been established. Stone walls feature as field boundaries at higher elevation.

Plantation coniferous forestry features on lower slopes to the east. Small areas of deciduous woodlands are located on the steep mountain sides overlooking Glencar, although in some areas, the dense and overgrown hedgerow network gives the appearance of small woodlands when viewed from a distance. The area is noted for the range of rare arctic-alpine plants and famous for its diverse bryophyte flora. The most important areas for these are around Glencar Waterfall and the Glenade Cliffs.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The upland plateaus of Tievebaun features an extensive area of peat bog. At lower elevations, marginal farmland is the main land cover along with an extensive area of moorland and heath in the southern part of the LCA. A small number of commercial coniferous forestry is present.

## 6.5.5 Human Influences

Typical of upland landscapes, the area appears to have been marginal to settlement throughout history. However, on the gently sloping plateaus to the east, signs of Neolithic settlement in the form of houses, field boundaries and tombs have been found in the areas of bog. Cairns and megalithic tombs are also associated with this landscape. Pound Hill at Lurganboy is an important historic site and the barytes mines extending from Sligo were mined here from the mid 18th century until approximately 1982.

Current land use is dominated by sheep grazing on the plateaus and the upper slopes where low earth and stone banks can often be seen rising up the steep hillsides demarcating large rectangular enclosures. Cattle grazing and hay and silage making occur at lower elevations on the gentler slopes fringing the lowlands. A large communication mast on the summit of Truskmore (in the neighbouring County Sligo), is visible from the surrounding lowlands and is a dominant feature in the area. It is reached by a mountain road which follows the County border. Settlement is largely absent although small isolated farmhouses exist on the gentle slopes to the east. These are largely located off a series of minor roads rising up the hillside above Lurganboy, Bradoge Bridge and Glencar Lough.

## 6.5.6 Landscape Evaluation

### 6.5.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A3 Arroo, Glenade, Truskmore, Glencar and environs** – the area specifically associated with the mountain moorland landscapes and foothills of Truskmore (summit in Co. Sligo);
- Views and prospects V7 View towards Glenade Lake from Local Roads LT21251-1, LT21512-2, LP02125-1 and LP02125-2; and
- Views and prospects V8 View towards Glencar Lake from Local Road LP04145.



### 6.5.6.2 Valued and Sensitive Attributes

- Dramatic and distinctive uplands rising to the summits of Tievebaun and Truskmore (Co. Sligo);
- Eagles Rock, a distinctive rock feature and unique focal point overlooking the Glenade Valley;
- Glacially formed corries as distinctive landmarks in this landscape;
- The upland plateaus are isolated, exposed, wild and bleak landscapes;
- Sense of remoteness with dark skies;
- Dramatic glacially formed valleys are relatively unspoilt landscapes; and
- Striking panoramic views from upland areas towards valleys and glens.

### 6.5.6.3 Landscape Quality, Condition and Sensitivity

Parts of this landscape associated with the uplands, moorland plateaus, corries, glens and lakes are of some considerable scenic quality owing to the unique topography and landcover which, featuring an absence of development, confers a remote scenic and wilderness like quality to the area.

This landscape is generally in good condition. The character is generally intact. Peat cutting has eroded the bogland landcover in places. A telecommunications mast, on the summit of Truskmore is clearly apparent from many locations within this landscape character area and detracts from the surrounding scenic quality of the uplands. Small numbers of wind turbines are present in the farmed foothills to the east. The infrastructure confers a developed character to this particular area which affects the underlying landscape character. The lowland areas to the east feature areas of commercial coniferous forestry which has partially eroded the original field pattern as a key aspect of its character.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The lower farmed slopes and foothills to the mountains are particularly sensitive to change due to their visual openness and their visibility from the surrounding lowlands. The Tievebaun Uplands is a sensitive landscape. The upland moorland areas are valued for their biodiversity interests and are largely intact although sheep trespass threatens to erode large areas of peat bog and heath and important habitats. These areas of moorland plateaus are particularly sensitive change due to their visual openness and their distinctive skylines which are seen from much of the surrounding lowlands. They are sensitive to change which would undermine their open, wild and isolated character and habitats therein. The steep slopes facing onto Glenade and Glencar are also particularly sensitive to change. Scrub encroachment and commercial coniferous forestry threaten to obscure views to the lowlands and obscure areas of scree and landslips which contribute to the character and visual amenity of the glens.

### 6.5.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations feature in the farmed foothills to the east;
- Areas of search for wind turbines have been identified within the upland areas of this LCA according to the ~~Draft~~ Leitrim Renewable Energy Strategy. Future development of this kind would need to consider sensitive moorland areas and sensitive valley landscapes associated with Glenade and Glencar valleys;
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows;
- Access roads towards the summit of Truskmore offers an opportunity for visitors (hill walkers) to attain extensive views of the surrounding lowlands and of Donegal Bay.
- Further peat extraction will reduce the biodiversity value of this LCA.

## 6.5.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and
- Management and control of invasive alien plant species (IAPS).

## 6.6 LCA 6. The Doons and Crockauns

### 6.6.1 Landscape description

This is a complex lake-land and mountainous landscape located west of Benbo on the western part of County of Leitrim. It has contrasting elements of upland moorland plateaus and lowland hills. The area is dominated by the mountains of the Crockauns and Leann in the north overlooking Glencar and the Doons in the south which overlook Lough Gill. The distinctive and unusual profiles of these hills are unique to this area of Leitrim.



### 6.6.2 Key Characteristics

Key characteristics are as follows:

- Varied limestone geology has created distinctive landform features, mountain profiles and scree slopes;
- Upland areas feature moors and heathland and pastoral farmland features at low elevations;
- Tracts of commercial forestry are located in the foothills, especially to the north of the Crockauns and Leann Mountain;
- Broadleaved mixed species woodlands fringe Lough Gill;
- Sparse settlement pattern of isolated farmhouses amongst pastoral farmland;
- areas of rush infested pasture;
- Scrub encroachment and coniferous forestry plantations obscure distinctive landform features;
- Parkes Castle, an early 17th Century plantation castle is picturesquely placed on the northern shoreline of Lough Gill;
- Lough Gill and its shores are noted for their nature conservation value; and
- Dramatic and highly scenic setting at Glencar Lough.





**Upland Landscape of The Doons and Crockauns with Lough Gill in the foreground**

### 6.6.3 Geology and Landform

The area is almost entirely underlain by hard Dartry Limestone. This forms both the upland mountains and lowlands fringing Lough Gill. However, local variations have created very different formations. Chert free limestone on the mountain ridge between the Crockauns and Leann occurs as mudbanks and forms rounded hummocky mountain peaks, which rise to 463 m AOD.

Glacial action has shaped the northern face of these mountains to create dramatic cliffs and scree slopes facing onto Glencar. Where the bedding or layering of cherty limestones is horizontal, they form tabular hill outlines such as the Doons. Here karstic weathering dissolves away the limestone to leave behind a chert residue which has proven a suitable base for the development of peat bogs. Surrounding Lough Gill drift deposits and low drumlins create softer landscapes. The mountains drain north into Glencar and south through the Doons into Lough Gill where they weave between the undulations. A strong valley is formed by the stream which enters Lough Gill from the north east. This occupies the fault line between the Doons and Benbo.

#### **Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The northern part of this LCA features a combination of blanket peat and deposits of glacial till dating back to the quaternary (drift) or glacial period. These till deposits are derived from Namurian Sandstones and Shales. The southern part of the LCA features kartsified bedrock outcrops or subcrops.

#### **Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology is comprised o limestone and calcareous shales dating back to Palaeozoic and Carboniferous Period. South of Lough Gill, a narrow band of Quartzo-feldspathic paragneiss associated with the Sliswood Division features and is among the oldest bedrock type in Co. Leitrim.

## 6.6.4 Land Cover

The upland plateau areas feature mostly moorland. Areas of natural grassland occur on the hummocky mountain slopes of the Crockauns and Leann, with heath and bogs occupying small areas of gentler topography between the peaks. Coniferous forestry plantations are fairly extensive on the northern slopes and largely occupy sheltered locations fringing the streams that drain the uplands. Commercial forestry on the southern slopes is limited to natural, extensively grazed grassland.

The lower, tabular hills of the Doons are largely managed for pasture. Hedgerows are limited and many fields are delineated with post and wire fencing. Where they do exist, hedges are gappy. Where scrub occurs on the slopes of the tabular hills, it sometimes obscures their distinctive profiles.

Extensive areas of peat bog occupy stream channels feeding into Lough Gill. The lough is also fringed by a large number of small semi-natural woodlands, including old oak woodlands and alluvial forest, which are noted for their nature conservation value. These woodlands help integrate moderately sized coniferous forestry plantations which also fringe the Lough. Rush infestation is considerable in many areas, indicating a widespread decline in farming and conveying a general sense of abandonment. The drumlins surrounding Lough Gill appear more productive, with an established network of bushy hedgerows defining the boundaries of pastoral fields. Many of the drumlin fields appear to have been enlarged for silage production.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The upland areas of The Doons and Crockauns feature an extensive area of moorland and heath. At lower elevations, farmland is the main land cover. Areas of woodland and scrub vegetation are dispersed throughout. A very small extent of commercial coniferous forestry is present.

## 6.6.5 Human Influences

The landscape shows few traces of prehistoric settlement indicating the marginal nature of the area's soils and difficult terrain. A concentration of cashels and raths in the area indicates past settlement. The most visible historic monument within the area is Parkes Castle. This fortified manor house, believed to occupy the site of a tower house belonging to the O'Rourkes, is a focal point on the shoreline of Lough Gill.

Modern settlement is relatively sparse and concentrated in the hills and drumlins surrounding Lough Gill. Scattered individual dwellings including a small number of whitewashed cottages are located in sheltered positions along tracks off the main routes through the area although they are barely visible from the road as they are hidden by small deciduous copses and landform. Particular clusters of houses may be identified along the main routes through the area and at crossroads.

## 6.6.6 Landscape Evaluation

### 6.6.6.1 County Level Landscape Designations

- Area of Outstanding Natural Beauty (AONB) **A3 Arroo, Glenade, Truskmore, Glencar and environs** specifically the landscape associated with Leean Mountain, Hangman's Hill, The Crockauns and foothills;
- Area of Outstanding Natural Beauty (AONB) **A4 The Doons, Lough Gill and Environs**;
- Views and prospects V9 View towards Glencar Lake from N16;
- V12 View of Fivemilebourne and Carrickanurroo;
- V13 View of Lough Gill from Carrickanurroo;
- V14 View of Lough Gill from R286;
- V18 View of Creevelea Abbey from the R288; and

- V29 View towards the Leean Mountain Range from the R.278 in the area of Doon Lough.

### 6.6.6.2 Valued and Sensitive Attributes

- Panoramic views of scenic Lough Gill from surrounding elevated areas;
- The steep mountain peaks are isolated, exposed, wild and bleak landscapes which are also relatively unspoilt;
- Sense of remoteness with dark skies in upland landscapes;
- Dramatic glacially formed valleys are relatively unspoilt landscapes; and
- Parkes Castle, a restored early 17<sup>th</sup> Century Castle and reminder of plantation history has a scenic setting on the shores of Lough Gill and is a popular visitor attraction.

### 6.6.6.3 Landscape Quality, Condition and Sensitivity

This landscape is of some considerable scenic quality due to the unique mountain and upland profiles which sweep down to greet the expansive landscape of Lough Gill.

The upland areas, including cliffs and landslips, are relatively intact and free of detracting built elements. Farmland on upper slopes is of variable condition with some post and wire fencing replacing hedgerow boundaries.

The mountain slopes of the Crockauns range are generally in good condition although scrub encroachment and extensive coniferous plantations obscure underlying variations in landform and field patterns. These uplands are particularly sensitive to any development that may obscure their distinctive hummocky profile.

Areas of pasture within the tabular hills LCT are showing signs of extensive rush infestation and have a general sense of abandonment. Hedges are often gappy and are frequently replaced by post and wire fences. Scrub has encroached onto the tabular hills to obscure their distinctive form and evidence of their horizontal layering. The drumlin farmland and woodland areas fringing Lough Gill are generally in good condition with rural settlement pattern largely intact.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The mountain areas associated with the Doons and Crockauns comprise a sensitive landscape. The sensitivity is derived from their visual openness, distinctive skyline, wilderness like quality and sense of remoteness. The lake-land associated with Lough Gill is also highly sensitive due to its visual openness and presence of important heritage features such as Parkes Castle. The lowland farmland surrounding the lake, with the woodland and hedgerow cover is less sensitive. The Doons and Crockauns and Lough Gill landscape is particularly sensitive to large scale development as large areas are visible from the surrounding hills and are valued habitats.

### 6.6.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations feature in the foothills in the northern part of this area;
- Areas of search for wind turbines have been identified within this LCA according to the ~~Draft~~ Leitrim Renewable Energy Strategy indicating potential for future development in the form of additional wind farms and single wind turbines. Future developments would have to take account of the sensitive upland landscapes in this area and the adjacent lowlands including Lough Gill;
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows; and



- Further peat extraction will reduce the biodiversity value of this LCA.

### 6.6.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting and traditional stone walls to field boundaries are preferable to post and wire fencing;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats;
- Conserve semi natural woodlands on the shores of Lough Gill. Manage tourism development in the interests of landscape character; and
- Management and control of invasive alien plant species (IAPS).





**Distinctive Mountain Profile of Benbo**

### 6.7.3 Geology and Landform

Benbo is formed from ancient and hard metamorphic rocks comprising mostly gneisses which represent an extension of those east of the Ox Mountains in County Sligo. The mountain has been sculpted into a distinct mountain ridge by the erosive action of the glaciers of the last Ice Age. At its highest in the east the ridge stands 415 m AOD and shelves gently to the west where small hillocks rise steeply from the surrounding landscape. The lowest slopes of the mountain are covered by drift material deposited in the glacial period. Peat soils predominate and are thin enough on particularly steep slopes to reveal the underlying bedrock.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The bedrock outcrop associated with Benbo and surrounding area features very small areas of peat and glacial deposits (till).

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology associated with this mountain and almost all of this LCA is comprised of a narrow band of Quartzo-feldspathic paragneiss associated with the Sliswood Division features and is among the oldest bedrock type in Co. Leitrim..

### 6.7.4 Land Cover

The steep slopes of Benbo support an area of extensively grazed moor and heath and natural grassland which is in strong contrast to the lush green pastures on the surrounding lowland drumlins. A number of quick flowing streams drain the steep hillsides occupying shallow, steep sided gorges and drain into the streams which encircle the mountain. Limited areas of scrub woodland have found shelter in these linear depressions and on lower slopes. Small fields fringe the mountain and are enclosed by post and wire fences



and low stone banks. Some intensive grazing is evident where soils are deepest. On the lower and gentler slopes of Benbo in the west of the character area, significant sites have been forested, obscuring any traces of field patterns and the distinctive smooth and simple mountain profile. A small lough (Lough Anarry) is located between the hillocks of Carrigeencor and Corrudda and is almost entirely encircled in plantation coniferous forests. Large tracts of commercial coniferous forestry are present especially in the western part of this LCA.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The upland areas of Benbo feature a mosaic of moor and heathland and peat bogs as the dominant land cover. At lower elevations, farmland is the main land cover along with areas of transitional woodland and scrub.

### 6.7.5 Human Influences

The thin peaty soils of Benbo and steep slopes have ensured that the mountain has been marginal to settlement since earliest times. A number of cairns are the only visible traces of prehistoric human activity in the character area. There is also a mass rock to the west of Benbo, a legacy of the penal times.

Roads and settlement are sparse. A small number of roads encircle the hills and cross the lower slopes in the east. Individual dwellings including older whitewashed cottages are dotted along roads encircling the mountain frequently containing small fields to the rear stretching up the low shallow slopes of the mountain. Fields are largely defined by post and wire fences although on the southern side of the mountain low stone banks demarcate improved fields. The fields on the lower slopes of the mountain are lush and greener and contrast with the muted darker tones associated with upland moor and heath. Many are showing signs of undergrazing evidenced by rush and scrub encroachment.

### 6.7.6 Landscape Evaluation

#### 6.7.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) A5 – Benbo – covering the landscape associated with the summit and lower slopes of Benbo; and
- Views and prospects V15 View towards Carrigeencor Lake from Local Roads LS08162 and LS08164.

#### 6.7.6.2 Valued and Sensitive Attributes

- Distinctive mountain associated with Benbo is a scenic focal point and forms the setting of the town of Manorhamilton; and
- The mountain summit is an isolated, exposed, wild and bleak landscape which is relatively unspoilt.

#### 6.7.6.3 Landscape Quality, Condition and Sensitivity

The upland landscape associated with Benbo is of a notable landscape quality and is an important and valued focal point for nearby settlements in the valleys such as Manorhamilton. The heather clad slopes of Benbo are generally in a good condition and its distinct mountain profile is instantly recognisable. However, limited scrub and rush invasion threatens to blur the distinction between the lower farmed slopes and the heather covered mountain and indicates a degree of abandonment.

The farmland pattern in the lowlands to the south west is in variable condition. Hedgerow loss and replacement with post and wire fences has occurred in many areas. The field pattern associated with the lowland farmland has been eroded in many places with plantation coniferous forests which are often of a considerable scale thereby undermining landscape character.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The mountain moorland landscape of Benbo is particularly sensitive to change due to its open exposed character, with panoramic views. It is an important landmark in views from the surrounding lowlands.

The isolated and uninhabited character of the mountain is particularly sensitive to most forms of built development including road routes and access tracks across the hills. The lower slopes to the west are less sensitive however increases in commercial coniferous forestry would further erode the field pattern of the lowland farmland areas.

### **6.7.6.4 Forces for Change**

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations feature in the lower lying farmland south west of Benbo Mountain;
- The continued spread of invasive alien plant species. This will reduce the biodiversity value of ecological features, including hedgerows; and
- Further peat extraction will reduce the biodiversity value of this LCA.

### **6.7.7 Conservation Recommendations**

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting and traditional stone walls to field boundaries are preferable to post and wire fencing;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and
- Management and control of invasive alien plant species (IAPS).

## 6.8 LCA 8. Boleybrack Uplands

### 6.8.1 Landscape description

The Boleybrack Uplands is a large mountain complex which rises above the Northern Glens, Central Lowlands and Lough Allen LCA. It has contrasting elements of moorland plateaus, steep moorland hills and gentle farmed slopes which rise above the lowland drumlins. The area is dominated by Boleybrack which rises to 449 m AOD. The summit of Boleybrack and adjacent uplands are remote and relatively inaccessible. Where access allows, panoramic views are available over the moorlands and surrounding lowlands. In the agricultural landscapes on the lower slopes hedgerows and woodlands screen long views and create more intimate landscapes. However large scale commercial forestry has covered many of these slopes with extensive plantations.



### 6.8.2 Key Characteristics

- Key characteristics are as follows:
- Extensive, mountainous uplands are remote, wild and have limited access and have a sense of isolation;
- Rough grazing on moorland hills and plateaus;
- Extensive areas of commercial coniferous forestry at lower elevations;
- Sparsely populated. Small houses associated with outbuildings are evident across many of the lower, gentler farmed slopes;
- Impressive panoramic views from higher ground of surrounding mountains and lowlands;
- Field boundaries creating strong patterns on lower hill slopes showing signs of dereliction in places;
- Enclosure usually defined by hedgerows although stone walls and post and wire fences feature in some areas;
- Small-scale wind farm development on south west facing slopes;
- Distinctive upland valley sheltering small farming communities; and
- Semi-natural woodlands on steeper slopes above O'Donnell's Rock.

### 6.8.3 Geology and Landform

Similar to the neighbouring Sliabh an Iarainn, the flattish-topped Boleybrack mountains are capped by hard sandstone which forms an extensive, gently undulating plateaus. Near Tullysheherry, peat covers an area of limestone pavement which is actively being eroded to form typical karstic features such as clints and grikes. The mountain slopes are underlain by softer limestone and shale and shelve steeply to the more gently



sloping lowlands which surround them. The many streams draining off the sodden hills have cut narrow valleys in the bedrock, shaping the southern face of the mountain into a series of deep gorges interspersed with rolling, sloping landform which is largely hidden by commercial coniferous forestry. Glacial erosion to the north of Larkfield Lough has eroded the limestone cap into a low cliff and the lower shale into a steep scarp slope forming a distinctive and well known landscape feature.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The most elevated areas of this landscape feature bedrock outcrop present as flat topped mountain plateaus with blanket peat land cover. At lower elevations, much of the LCA features deposits of glacial till dating back to the quaternary (drift) or glacial period. These deposits are derived from Namurian Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of this LCA features Namurian sandstone and Shale from Palaeozoic and Carboniferous Period together with Visean mudstone and sandstone (Meenymore Formations). Limestone and Calcareous shales occur at lower elevations in the southern part of this LCA, these also dating back to Palaeozoic and Carboniferous Period.

### 6.8.4 Land Cover

The upland areas of The Boleybrack Mountains feature extensive area of moorland and heath and peat bog. At lower elevations, farmland is the main land cover which is usually enclosed by hedgerow vegetation. Patches of transitional woodland and scrub also feature at lower elevations. A number of large areas of commercial coniferous forestry occur throughout<sup>9</sup>.



**Pastoral farmland and commercial coniferous forestry at lower elevations**

<sup>9</sup> Environment Protection Agency, Corine Landcover map dataset 2019

The extensive areas of plateaus are covered by a mosaic of heath, blanket bog and natural grassland. The steeper moorland hills are predominantly covered by heath and natural grassland with extensive coniferous plantations occupying upland and lowland slopes. Plantations are particularly large on the south eastern and south western slopes of the mountain and in the upland valley of the Scardan River. An area of deciduous woodland at O'Donnell's Rock is one of only a few naturally developing woodlands on the Leitrim limestone mountains. This is of particular interest as it demonstrates the natural succession of this woodland type on steep ground. Lower portions of the wood were once part of an estate woodland which has been mostly felled although some exotic species remain. Barlear and Lackagh Bog are also of considerable ecological interest.

Elsewhere deciduous woodland is restricted to narrow river valleys and gorges, small deciduous copses surrounding established hillside farmhouses and outbuildings and hedgerow trees. Farmland is largely found on gentle mountain slopes below the 200 m contour and is predominantly pastoral with an intricate network of hedgerows extending up the slopes of the mountain. The patchwork of pasture fields and hay meadows are textured by rush infested fields. The inaccessibility of the uplands areas due to lack of infrastructure is such that this LCA retains its sense of remoteness and wildness and consequently, the habitats benefit also.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Small areas of upland feature areas of peat bog with some moorland and heath. At lower elevations, farmland is the main land cover which is usually enclosed by hedgerow vegetation. Patches of transitional woodland and scrub occur at lower elevations. A number of large areas of commercial coniferous forestry occur throughout.

### 6.8.5 Human Influences

The moorland hills and plateaus show little evidence of settlement or ritual. However, a cluster of megalithic tombs, cashels and souterrains indicate habitation in the upland valley of the Scardan river and some of the lower, gentler slopes. Several of the tombs are constructed from limestone taken from the clint and grike limestone pavement.

Field enclosures are traditionally small and on lower slopes are defined by a dense network of hedgerows, increasingly replaced with post and wire fences, stone walls and low earth and stone banks at higher altitudes. Where the hedgerow network is intact, geometric fields may be seen extending up the hillsides. In many areas however the distinctive patchwork of pasture fields is blurred by rush infestation and hedgerow loss.

Modern settlement is located below the upper limits of farming, clustered along or close to the main roads which fringe and criss-cross the farmed slopes. Small farmhouses, often associated with small stone outbuildings are located throughout the hill pastures and are often visible from the surrounding lowlands. Some are traditional whitewashed cottages in sheltered locations surrounded by small copses. A small number of more isolated cottages are located higher on the moorland hills, reached by long straight tracks which rise up the steep mountain sides. Many of these turn into logging roads and run parallel to the streams draining the mountain. Small clusters of houses are located in the high valley of the Scardan.

### 6.8.6 Landscape Evaluation

#### 6.8.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A6 O'Donnell's Rock and Boleybrack** – covering the landscape associated with the Boleybrack Mountains and foothills to the west overlooking the R280 Regional Road;
- Area of High Visual Amenity (AHVA) **B6 Cloonclare** covering the landscape associated with the foothills east of Boleybrack overlooking the N16 Road from the south;

- Views and prospects V17 View from O'Donnell's Rock;

### 6.8.6.2 Valued and Sensitive Attributes

- Panoramic views of scenic Lough Allen from south facing slopes in this LCA;
- The moorland plateau landscape is a remote, isolated, wild and bleak landscape;
- Sense of remoteness with dark skies in upland landscapes; and
- The Leitrim Way extends through this LCA and is a national walking route and visitor attraction.

### 6.8.6.3 Landscape Quality, Condition and Sensitivity

The upland landscapes are of some considerable scenic quality as these comprise relatively intact areas of moorland with a remote sense of place which are appreciated as highly scenic landscapes in views from the lowlands.

The condition of the farmed landscapes at lower elevations is relatively good except in areas where some signs of abandonment or replacement of hedgerows with post and wire fencing occur. The landscape character in the southern part of this LCA has been eroded due to large tracts of commercial coniferous forestry which have resulted in the loss of hedgerows and field patterns. These large coniferous plantations often obstruct important views to upper slopes and the lowlands. Logging roads are also conspicuous on many of the hillsides. The clearfelling of large tracts of land present as a scar on the landscape.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The moorland plateau is largely in a good condition, with extensive outlook to the lowlands and retaining a wild, isolated character. For these reasons, it is considered to be particularly sensitive to change. The hillsides and lowland areas are already extensively wooded with plantation coniferous forests. The lowland landscapes are less sensitive where woodland and hedgerow cover are abundant. The distinctive scree and cliffed slopes below O'Donnell's Rock are particularly sensitive both in terms of visual amenity and biodiversity interests.

### 6.8.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations feature in the foothills in the northern part of this area;
- Areas of search for wind turbines have been identified within this LCA according to the **Draft** Leitrim Renewable Energy Strategy indicating potential for future development in the form of additional wind farms and single wind turbines;
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows; and
- Further peat extraction will reduce the biodiversity value of this LCA.

### 6.8.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and

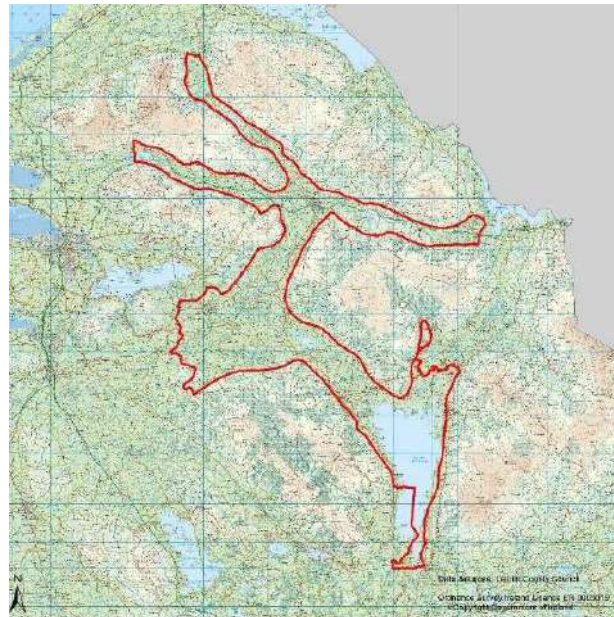


- Management and control of invasive alien plant species (IAPS).

## 6.9 LCA 9. Northern Glens, Central Lowlands & Lough Allen

### 6.9.1 Landscape description

The Northern Glens, Central Lowlands and Lough Allen Character Area extends from the shores of Lough Allen to the southern edge of the Tullaghan Coast LCA. The area comprises a series of dramatic U-shaped valleys formed during glaciation. These valleys support pastoral farmland and are overlooked by dramatic mountain scenery associated with Arroo, Tievebaun, Doons and Crockauns and Boleybrack Mountains. The valleys or glens feature the main regional road corridors from which the mountain scenery can be enjoyed and serves as a sheltered landscape for agriculture and settlement. The surrounding distinctive mountain profiles and glen sides are landmarks among the drumlins and their consistent moorland landcover contrast with the neat, small-scale patchwork of pastoral fields.



### 6.9.2 Key Characteristics

- Undulating, drumlin farmed lowlands and glens are visually contained by steep sided mountain uplands;
- Rivers meander along the length of the valley floor and feature occasional loughs. These wetlands often fed by streams from the surrounding hills, fringed by trees;
- Extensive areas of wet pasture contrast with the surrounding patchwork of drumlin fields;
- Areas of deciduous woodland are dispersed throughout. Extensive tracts of commercial forestry especially in the east facing foothills of Corry Mountain and west facing foothills of the Boleybrack Mountains;
- Linear settlements strung out along roads winding through the lowlands;
- Local geological and topographical conditions confer a particular landscape character to each glen;
- Major communication routes extend along the length of each valley. Major towns often sited where several routes meet;
- Outlook towards the vast expanse of Lough Allen in a southerly direction; and
- Castles are important local landmarks and an indication of the strategic importance of these landscapes in history.

### 6.9.3 Geology and Landform

Towards the end of the last ice age the glens were filled with glaciers, generally flowing northwards. The erosive action of the glaciers scoured the rock faces of the surrounding mountains and produced a vast range of relief features on the sides of the valleys, giving each valley its own distinctive character and scenic

quality. As the ice melted, the steep slopes lost the support given by the glaciers and in places huge rock masses broke away and slipped onto the valley floor.



**Valley Landscape near Glecar**

The ice also deposited drumlins in the base of the valley and obscured almost all traces of underlying geology. The drumlins are of varying sizes and shapes and generally lie parallel to the valley sides which contain them, giving a clear indication of the direction of glacial movement through the valleys. The principal rivers of the Bonet, Duff and Diffreen meander through the drumlins, often feeding loughs in the valley bottom. These rivers and streams may be bordered by extensive flat or gently undulating landform created by the vast volumes of eroded material deposited by water courses filling the inter-drumlin hollows. Shaas Falls at Newbridge near the northern end of Lough Allen is an important landscape feature within this area.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The glacially formed drumlin and hill topography comprises glacial till derived from Namurian Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of this LCA features Limestone and Calcareous shales dating back to Palaeozoic and Carboniferous Period. These occur in the northern part of the LCA. Further south in the vicinity of Lough Allen, Viséan mudstone and sandstone (Meenymore Formations) are the predominant bedrock type.



## 6.9.4 Land Cover

The drumlin hills feature pastoral farmland. A network of even aged hedgerows defines the patchwork of small fields, many of which are showing signs of rush infestation and abandonment. The hedgerows largely follow and accentuate the undulating topography of the drumlins. The extensive areas of flat land fringing the rivers and streams feature wet pasture.



**Valley Farmland at the foot of the Arroo Mountain Range**

Post and wire fences often replace hedgerows. Many pastures appear to have been reclaimed from raised peat bog, which survives in small patches throughout the area, often bordering streams. There are many coniferous plantations of small to moderate size. Larger plantations occur south and east of Dromahair. There are few deciduous woodlands in the area although small copses surrounding farms and dense hedgerows and hedgerow trees give the landscape a well wooded character.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The valleys and lowland areas feature agriculture (pasture) as the main land cover type often enclosed by hedgerow vegetation. A number of small areas of commercial coniferous forestry are dispersed throughout.

## 6.9.5 Human Influences

The distribution of historic sites and monuments including numerous megalithic tombs, raths and enclosures indicates that these lowland passes were much more heavily settled than the neighbouring uplands. Castles are a conspicuous feature of the lowlands and indicates a concerted effort to control or monitor movement through mountainous regions. Many are sited at the entrance to a glen or valley at the point where routes converge. The villages such as Dromahair and Manorhamilton also appear to defend river crossings. Creevelea Abbey built in 1508 is an important historical feature near Dromahair. The village of Dromahair itself is significant historically, as it has associations with St Patrick and was the seat of one of Ireland's most

powerful families, the O'Rourkes. The Tobar Mhuire, a holy well at Killarga devoted to the Virgin Mary and associated with an earlier holy woman, St Fearga, is another important feature within this area.

Communication routes continue to be an important feature of the lowlands and many busy regional roads routes together with electrical overhead transmission lines extend along the length of the valleys, often running broadly parallel to rivers. Stone bridges are frequent features at river crossings. The dispersed settlement and farming pattern was largely established in the 19th century. A complex network of rural roads weaves through the undulating landform with small, traditional cottages set back in sheltered locations on the side of drumlins, often surrounded by small deciduous copses.



**Traditional Dwelling near the shores of Lough Allen.**

The main towns include Dromahair, Drumkeeran, Killarga and Manorhamilton and were established during the Plantation Period. These are often popular with tourists who use them as a base from which to explore the surrounding uplands.

## 6.9.6 Landscape Evaluation

### 6.9.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) **A3 Arroo, Glenade, Truskmore, Glencar and Environs** specifically the landscape associated with the northern part of the Glenade Valley and the western part of the Glencar Valley;
- Area of High Visual Amenity (AHVA) **B8 Lough Allen, Sliabh and Iarainn, Bencroy and Environs** – specifically the landscape associated with the shores of Lough Allen;
- Views and prospects V10 View towards Benbo Mountain from Local Road LP02136;
- V16 View of Benbo, Thur and Dough Mountains from R280;

- V21 View towards Lough Allen from the R280; and
- V22 View towards Lough Allen from the R200.

### 6.9.6.2 Valued and Sensitive Attributes

- Sweeping glacially formed U-shaped valleys and glens with panoramic views to adjacent uplands and mountains are relatively unspoilt landscapes;
- Outlook towards the expansive Lough Allen in the south; and
- Glencar Lake and environs, including the much visited waterfall.

### 6.9.6.3 Landscape Quality, Condition and Sensitivity

The landscape is generally considered to be in good condition. The glens and lowlands appear relatively unspoilt and much of the key characteristics of these landscapes remain intact. Plantation coniferous forestry has, to some extent, eroded the farmed field pattern in the southern part of this LCA. Busy roads, overhead powerlines and settlements confer a busy and active quality to the landscape character of the glens compared with the tranquillity of the mountain tops.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The undulating landform combined with a robust hedgerow and woodland network is such that this landscape is capable of accommodating development of a small-scale. The landscape is sensitive, especially in areas which are overlooked by extensive and highly scenic upland areas. The LCA as a whole is sensitive to development which is not in keeping with the existing pattern of small-scale fields and dispersed settlement. The character of each individual glen or valley is uniquely influenced by the distinct mountain profiles and geological features which overlook it, therefore making many of these areas sensitive to development which would obscure views to the surrounding uplands.

### 6.9.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations feature in the foothills of the surrounding mountainous areas some of which extends down along the valley sides;
- However, fast roads are placing the area under increasing pressure from new built development as commuters favour rural locations with easy access to good roads and the scenically dramatic glens are easily accessible to large numbers of tourists. Road improvements, power lines and expansion of existing towns and villages are also likely to have an increasing impact on local landscape character and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

## 6.9.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Conserve and manage riverbank vegetation and monitor water quality. Enhance the setting and structure of stone bridges;
- Views to and from distinctive mountain skylines and Lough Allen to be conserved;



## REPORT

---

- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and
- Management and control of invasive alien plant species (IAPS).

## 6.10 LCA 10. Sliabh Anierin

### 6.10.1 Landscape description

Sliabh An Iarainn is a large mountain complex which overlooks Lough Allen from the east and the lowland drumlin farmland further south. It has contrasting elements of moorland plateaus, steep moorland hills and gentle farmed slopes. The area is dominated by Sliabh An Iarainn, which rises to 585 m AOD. The summits are largely remote and inaccessible and feature heathland, bog and some limited infrastructure (telecommunications). At lower elevations, the small-scale field pattern is strongly defined in places by dense mature hedgerows resulting in more intimate landscapes. Panoramic views are available from the elevated landscapes towards the lowlands further south.



### 6.10.2 Key Characteristics

Key characteristics are as follows:

- Extensive, mountainous uplands overlooking Lough Allen from the east;
- Rough grazing on moorland hills and plateaus;
- Extensive areas of commercial forestry in particular on the south and east facing slopes of Slieve Anierin;
- Sparsely populated;
- Impressive views from higher ground towards the farmed lowlands and Lough Allen;
- Moorland plateaus retains sense of isolation despite access roads and infrastructure;
- Mature hedgerow boundaries creating strong small-scale field patterns on lower hill slopes. Some signs of dereliction in places;
- Distinctive upland valleys sheltering small farming communities;
- Semi-natural woodlands on steeper slopes and around farms; and
- Concentration of sweatshouses on some of the lower farmed slopes.

### 6.10.3 Geology and Landform

The flattish-topped mountains are capped by hard sandstone which forms occasional rocky crags and cliffs which are often visible from the surrounding lowlands and contribute to the mountains distinctive profiles. The mountain slopes are underlain by softer shale and become gentler towards the drumlin covered lowlands which surround them. The many streams draining off the sodden hills have cut narrow valleys in the shale bedrock and become increasingly fast flowing and rocky on lower slopes. This area is a small part of larger upland area of Cuilcagh Mountain which extends into neighbouring County Cavan.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The most elevated areas of this landscape features bedrock outcrop present as mountain plateaus with blanket peat land cover. At lower elevations, much of the LCA features deposits of glacial till dating back to the quaternary (drift) or glacial period. These deposits are derived from Namurian Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of this LCA features Namurian sandstone and Shale from the Palaeozoic and Carboniferous Period together with Viséan mudstone and sandstone (Meenymore Formations). Limestone and Calcareous shales occur at lower elevations in the northern part of this LCA, these also dating back to Palaeozoic and Carboniferous Period.

### 6.10.4 Land Cover

The extensive areas of upland plateaus feature a mosaic of heath, blanket bog and abandoned cutaway bog. Narrow geometric blocks of woodland occupy steeper slopes on the southern and eastern edge of Sliabh an Iarainn. Deciduous woodland is restricted to narrow river valleys and gorges and to small copses surrounding established hillside farmhouses and outbuildings. There are also remains of an ancient woodland with 500 year old oak trees at Aughacashel and limestone features including potholes at Mullagharve are valued natural features. The gentle mountain slopes below the 200m contour are a patchwork of fields and hay meadows, textured with rush infestation in parts. An intricate network of hedgerows extends up the slopes of the mountain.



**Moorland Landscape with tracts of Commercial Coniferous Forestry**



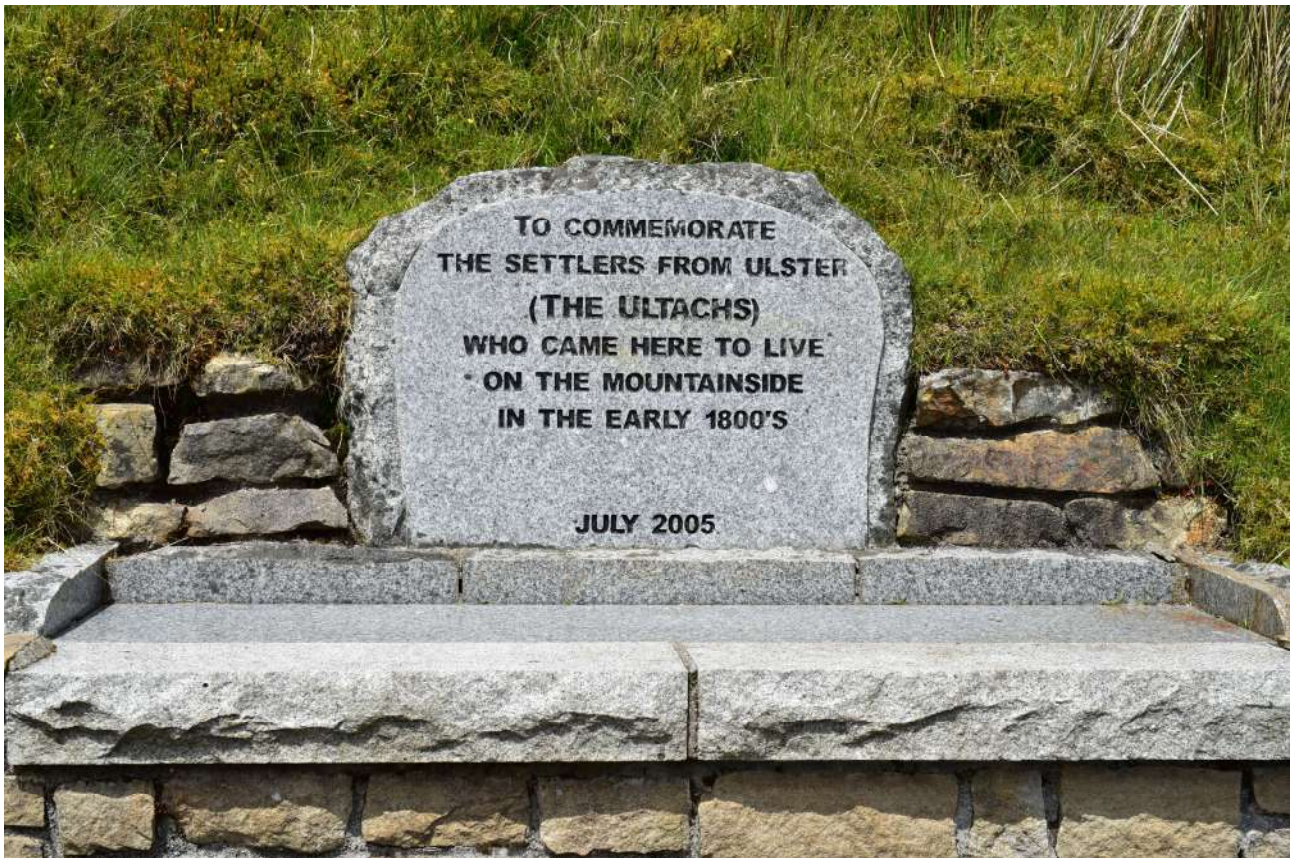
**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The upland areas of Slieve Anierin feature extensive areas of peat bog with some moorland and heath. At lower elevations, farmland is the main land cover which is usually enclosed by hedgerow vegetation. Patches of transitional woodland and scrub are a frequent feature at lower elevations. A number of large areas of commercial coniferous forestry occur especially in the southern part of this LCA.

### 6.10.5 Human Influences

The moorland hills and plateaus show little evidence of occupation or ritual. However, a number of megalithic tombs and clusters of raths on the lower slopes indicate that there has been a tradition of pastoral farming in these areas for hundreds of years. Mining for both coal and iron is known to have taken place on Sliabh an Iarainn, whose name means the Iron Mountain.

However, there is little evidence of extraction as the neighbouring Arigna coal field to the west was found to be more productive and was more heavily worked. In addition, iron was mined by scavenging stream beds for nodules, a process which leaves few traces. This industrial heritage is increasingly valued by locals and visitors. At the summit of Bencroy there is a small monument in memory of the Ultachs, displaced people from Ulster who took up residence on the top of the mountain in 1795.



**Commemorative Plaque to The Ultachs**

A cluster of sweat houses can be identified in areas of farmland around the Yellow River to the west of Ballinagleragh although many are not visible due to these areas being overgrown. Field enclosures are traditionally small and on lower slopes are defined by a dense network of hedgerows, replaced with post and wire fences at higher altitudes. Elsewhere on the upper slopes, low, often derelict earth and stone banks demarcate fields. In close proximity to the fast flowing streams, walls are constructed with river rolled boulders.

Modern settlement is located below the upper limits of farming clustered along or close to the main roads which fringe and criss-cross the farmed slopes. Small farmhouses, often associated with small corrugated outbuildings are located throughout the hill pastures. Most are traditional small whitewashed cottages in sheltered locations surrounded by small copses. A number of more isolated cottages are located higher on the moorland hills, reached by narrow winding lanes. There is no settlement on the plateaus itself although the roads fringing Bencroy provides access to the upland landscape including conspicuous telecommunication masts near the summit. Villages are largely absent from the character area.

### 6.10.6 Landscape Evaluation

#### 6.10.6.1 County Level Landscape Designations

- Area of High Visual Amenity (AHVA) B8 Lough Allen, Sliabh an Iarainn, Bencroy and Environs.

#### 6.10.6.2 Valued and Sensitive Attributes

- Mountain skyline form the setting of Lough Allen landscape; and
- Slieve Anierin is a focal point of interest visible more widely from the lowlands in the southern part of the County.

#### 6.10.6.3 Landscape Quality, Condition and Sensitivity

The moorland plateau is largely in a good condition, with extensive areas on Sliabh Anierin retaining a wild, isolated character. Deterioration of field boundaries and spread of rushes onto pasture land indicate abandonment of both upland pastures and lowland farmed landscapes. This tends to blur the boundary between these two formerly distinct landscape types. Post and wire fences are increasingly being used in preference to traditional earth banks in upland areas.

Large coniferous plantations mask vast areas of the underlying landscape and obscure old field patterns, further detracting from the quality of upland landscapes. Their negative landscape effect is also strong when large areas are felled, leaving vast scars on the uplands. The regular rectangular blocks are particularly conspicuous on the southern slopes of Sliabh an Iarainn.

The landscape is valued as recognised in the County Designation and the valued and sensitive attributes documented above.

The upland areas of this landscape are particularly sensitive to change owing to their visual openness and their distinctive mountain skylines which present as an attractive focal point from the lowlands. The mountain landscape and its relationship with the vast lake-land associated with Lough Allen is of particular scenic quality. This part of the LCA is especially sensitive to change.

#### 6.10.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are abundant especially on the south facing slopes of Slieve Anierin;
- Areas of search for wind turbines have been identified within this LCA according to the ~~Draft~~ Leitrim Renewable Energy Strategy. Future development would have to take account of the sensitive upland landscapes in this area along with adjacent lowlands including Lough Allen;
- Telecommunications infrastructure present on the summit of Bencroy;
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows; and
- Further peat extraction will reduce the biodiversity value of this LCA.

### 6.10.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Views to and from distinctive mountain skylines and Lough Allen to be conserved;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and
- Management and control of invasive alien plant species (IAPS).



## 6.11 LCA 11. Corry Mountain

### 6.11.1 Landscape description

The Corry Mountain is an upland area which overlooks Lough Allen and lowlands from the west. The area features extensive tracts of peat bog, transitional woodland and scrub. Corry Mountain is the highest point reaching 436 m AOD. The uplands feature mountain roads which lead to wind farm developments of which there is a concentration of wind turbines which are visible from the surrounding lowlands. Panoramic views from elevated locations are available of the moorland plateaus, the surrounding lowlands and Lough Allen. In the agricultural landscapes on the lower slopes hedgerow enclosure results in more intimate landscapes. Large tracts of commercial forestry are a dominant feature along the moorland hills and at lower elevations.



### 6.11.2 Key Characteristics

Key characteristics are as follows:

- Extensive, mountainous uplands overlook Lough Allen from the west;
- Rough grazing on moorland hills and plateaus;
- Extensive areas of commercial forestry which dominate the moorland hills and lower slopes;
- A concentration of wind turbines on highest ridgelines;
- Sparsely populated;
- Impressive views from higher ground towards valley landscapes, Lough Allen and adjacent mountains;
- Moorland plateaus sense of isolation is eroded by the presence of many wind turbines;
- Field patterns on lower hill slopes fragmented by tracts of commercial forestry;
- Distinctive upland valleys sheltering small farming communities accessed by winding narrow roads; and
- Transitional woodland and scrub on steeper slopes.



**Panoramic views from these upland landscapes towards the east**



**Panoramic views from the uplands towards Lough Allen**

### 6.11.3 Geology and Landform

Corry Mountain is part of the Upper Carboniferous bedrock series with shale. The flattish mountain-top itself is capped by sandstone. The mountain slopes are underlain by softer shale and become gentler towards the drumlin covered lowlands which surround them. The streams draining off the sodden hills have cut narrow valleys in the shale bedrock and become increasingly fast flowing and rocky on lower slopes. This area is a small part of a larger mountainous area that extends into neighbouring County Roscommon.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The most elevated areas of this landscape features rock outcrops present as mountain plateaus with blanket peat cover. At lower elevations, much of the LCA features deposits of glacial till dating back to the quaternary (drift) or glacial period. These deposits are derived from Namurian Sandstones and Shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology of this LCA features Namurian sandstone and Shale from Palaeozoic and Carboniferous Period together with small areas of Visean mudstone and sandstone (Meenymore Formations). Limestone and Calcareous shales occur at lower elevations in a small part of the LCA to the north, these also dating back to Palaeozoic and Carboniferous Period.

### 6.11.4 Land Cover

The extensive areas of upland plateaus associated with Corry Mountain feature a mosaic of heath, blanket bog and abandoned cutaway bog. There is evidence of extensive sheep grazing with field boundaries enclosed largely by post and wire fences. On the lower slopes there is rough pasture with scrub invasion in places. Telecommunication masts and wind farms are conspicuous features in this mountainous area.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- The upland areas of Corry Mountain feature extensive areas of peat bog. At lower elevations, farmland is the main land cover which is usually enclosed by hedgerow vegetation. Patches of transitional woodland and scrub are dispersed throughout. A number of large areas of commercial coniferous forestry occur especially in the northern part of this LCA.

### 6.11.5 Human Influences

Mining for both coal and iron is known to have taken place on Corry Mountain. There is little evidence of extraction as the neighbouring Arigna coal field to the west was found to be more productive and was more heavily worked. In addition iron was also mined by scavenging stream beds for nodules, a process which leaves few traces. There are a number of disused coalmines and sweathouses located on the Roscommon side of this area. The Miners' Way, which passes close to the summit of Corry Mountain, is a tangible link to the area's mining past as it follows many of the paths used by miners who worked the Arigna Coalfield. Evidence of settlement is very sparse on the higher slopes with the exception of the remains of seasonal boodies. Field enclosures are traditionally small and on lower slopes are defined by a dense network of hedgerows which are replaced with post and wire fences at higher altitudes.

Modern settlement is located below the upper limits of farming clustered along or close to the main roads which fringe and criss-cross the farmed slopes. Small farmhouses are located throughout the hill pastures. Most are traditional whitewashed cottages in sheltered locations surrounded by small copses. Some more isolated cottages are located higher on the moorland hills, reached by narrow winding lanes. There is no settlement on the plateaus itself, although it does feature wind turbines. Villages are largely absent from the character area with the exception of Drumkeeran and a number of townlands. Drumkeeran has associations with the 1798 Rebellion and General Humbert. It also houses a heritage centre. The Creevalea Iron Works are located approximately 7 km outside the village.



## 6.11.6 Landscape Evaluation

### 6.11.6.1 County Landscape Designations, Views and Prospects

- Area of High Visual Amenity (AHVA) associated with B7 Corry Mountain – covering the landscape of Corry Mountain and foothills to the east overlooking Lough Allen;
- Views and prospects V19 View towards Bellhavel Lake from Local Road LT42461; and
- V20 View from Gleaghnafarnagh from Local Road LT42533.

### 6.11.6.2 Valued and Sensitive Attributes

- The skyline of Corry Mountain, albeit featuring wind turbines, forms a distinctive backdrop to the lowland landscapes to the east and also the setting of the town of Drumkeeran.

### 6.11.6.3 Landscape Quality, Condition and Sensitivity

The landscape quality and condition is partially affected by the presence of wind turbines, in particular the upland areas where these and associated access tracks interrupt the otherwise remote and tranquil character of the mountain moorland plateaus. Post and wire fences are increasingly being used in preference to traditional earth banks in upland areas.

Large coniferous plantations have eroded the landscape character associated with the lowland farmland and foothills due to the loss of field patterns, defined by hedgerows and earthen banks. These are highly visible on the slopes up to the mountain plateaus.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The upland plateaus are sensitive landscapes due to their visual exposure and intervisibility with the lowlands. Plantation coniferous forestry tends to be highly visible at higher elevations. Roads onto the moorland plateau tend to undermine the sense of isolation. Areas of heath and blanket bog are burned to encourage grass growth, which causes areas of peat to dry out and alters vegetation structure.

The lowland farmed landscapes may be less sensitive to change due to the extent of wooded vegetation cover. However areas with a high degree of intervisibility with surrounding distinctive mountain skylines are likely to be sensitive to change.

### 6.11.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are abundant in the foothills surrounding Corry Mountain;
- Areas of search for wind turbines have been identified within this LCA according to the Draft Leitrim Renewable Energy Strategy indicating potential for future development in the form of additional wind farms and single wind turbines; and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows;
- Road access to the uplands could result in large numbers of tourists and hill walkers visiting open moorland with the consequent risk of erosion and littering; and
- Further peat extraction will reduce the biodiversity value of this LCA.

### 6.11.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Views to and from distinctive mountain skylines and Lough Allen to be conserved;
- Manage land based farming and other activities to conserve peat bogs and bogland habitats; and
- Management and control of invasive alien plant species (IAPS).

## 6.12 LCA 12. Ballinamore Loughlands

### 6.12.1 Landscape description

The Ballinamore Loughlands is a distinct lowland area located south of the Slieve Anierin LCA. It shares many of the characteristics of the South Leitrim Drumlins and Shannon Basin LCA but the drumlin topography is less pronounced. Views are attained at elevated locations towards Sliabh Anierin uplands to the north. An extensive network of small loughs and streams characterise this area and the largest of these is Garadice Lough. This lake-land landscape is related to the drainage pattern of the Lough Erne system which extends from County Fermanagh south to County Cavan adjacent to this LCA. The pattern of drumlin hills creates a strong sense of enclosure which is emphasised by the small-scale fields which are bounded by mature hedgerows.



### 6.12.2 Key Characteristics

Key characteristics are as follows:

- Landscape of pastoral farmland and many small loughs;
- Area of drumlin hills and loughs fed by streams draining the surrounding uplands;
- Intricate pattern of small-scale fields enclosed by mature hedgerows;
- Small-scale farms, dwellings, wet meadows and areas of boggy, poorly drained pasture;
- Relatively well wooded landscape due to broadleaf woodland and hedgerows;
- Tracts of commercial forestry present in this LCA;
- River Erne dominates the drainage pattern of the area;
- Distinctive rural road and settlement patterns. Large settlements located at junctions of major communication routes;
- Particular concentrations of megalithic tombs and defensive sites on loughs evident across the landscape. Possibly good preservation of organic archaeological remains in boggy areas; and
- Car parks and picnic sites occasionally on lough edges off main roads.





**Pastoral drumlin farmland with abundant hedgerow cover adjacent to Gulladoo Lough**



## Garadice Lough

### 6.12.3 Geology and Landform

The underlying limestone geology is cloaked by a dense drumlin field formed during the last Ice Age. These hummocky hills were responsible for blocking streams draining off the hills to the north and have forced water to be ponded back into a multitude of small lakes and extensive marshy flats occupying lough fringes and inter-drumlin hollows formed from stream deposited clay. Rivers, streams and canals weave between the hills and link many loughs together with navigable routes. A particular feature is the turlough drainage close to Ballinamore town.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The quaternary (drift ) geology associated with glaciation resulted in an undulating landscape featuring small drumlin hills with a strong north south orientation. The drumlin hills are comprised of glacial till derived from limestones. In the eastern part of the LCA, these glacial deposits are derived from Silicified Limestone and cherts.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The bedrock geology in the northern part of the LCA features limestones and calcareous shales dating back to the Palaeozoic and Carboniferous Period. Further south, a variety of rock types occur although the predominant types comprise Greywacke, shale and sandstone dating back to the Palaeozoic, Middle - Upper Ordovician Period.

### 6.12.4 Land Cover

The landscape features mainly pastoral farmland with frequent small lakes. This farmland is enclosed by mature hedgerow vegetation resulting in a strongly defined field pattern. Areas of peat bog and wet pasture feature in the inter drumlin hollows. Small areas of broadleaf woodland also occur throughout.

Deciduous woodlands are a frequent feature at edges of loughs. Hedgerows, woodland and plantations are largely absent from the extensive areas of wet meadow where landholdings are defined with post and wire fences. Large areas of inland wetland are located to the south of Ballinamore. The views from the numerous lakes are highly valued. The loughs are also considered important for wildfowl.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Pastoral farmland is the main land cover type in this LCA which also features a number of small lakes. A number of areas of commercial coniferous forestry are dispersed throughout.



**Plantation Coniferous Forestry south of Castlefore Lough**

### **6.12.5 Human Influences**

Despite the difficult nature of the poorly drained drumlin soils there is evidence of widespread Neolithic activity surrounding many loughs. A number of megalithic tombs surrounding Lough Scur and St. John's Lough indicate that there was a considerable population engaged in fishing, hunting, farming and worship here around five thousand years ago. Finds from the area are impressive; a dugout canoe and several wooden shields, now housed in the National Museum, suggest that the wet soils are capable of preserving delicate organic archaeological remains. The loughs have also been the natural sites for defensive dwellings. A number of crannógs, ringforts and stone built towers are testimony to more unsettled times.

There are two important church ruins on the site of an earlier monastery, founded by St Caillin in the 6th century, with a number of standing stones said to represent the petrified bodies of druids who attempted to expel the saint from Fenagh. An important portal tomb in the north of village is associated with the burial grounds of a number of Gaelic kings.





**Church ruins and graveyard, Fenagh**

There are few large villages and towns in the area. The largest is Ballinamore, the main market centre for surrounding parishes. The town is well known as a base from which to explore local fishing loughs and the Ballinamore- Ballyconnell Canal which was built in 1853-60 and which weaves through the drumlins linking many loughs. Other small towns and villages such as Carrigallen and Fenagh are located at the junction of many rural roads.

Elsewhere settlement is dispersed along winding roads with houses occupying sheltered sites on drumlin sides. Small farm outbuildings are associated with many traditional houses.

Roads and settlement are largely absent from the wet, inter-drumlin hollows and lough shores, although the drumlins fringing some smaller loughs are becoming increasingly popular for new housing developments. Where roads pass close to the shores of larger loughs, car parks and picnic areas are often located.

## 6.12.6 Landscape Evaluation

### 6.12.6.1 County Landscape Designations, Views and Prospects

- Area of High Visual Amenity (AHVA) **B9 Lough Scur, St. John’s Lough and Environs;**
- Area of High Visual Amenity (AHVA) **B10 Lough Garadice and Environs;**
- Area of High Visual Amenity (AHVA) **B13 Gulladoo Lake and Environs** - covering the landscapes associated with Kilnamar Lough and Gulladoo Lough;
- Area of High Visual Amenity (AHVA) **B14 Laheen Lake, Glasshouse Lake and Environs;** and
- Views and prospects V24 View of Slieve an Iarainn and Lough Scur from the R209.

### 6.12.6.2 Valued and Sensitive Attributes

- Intimate Lake-land landscapes valued for their scenic quality, in particular Garadice Lough;
- Expansive views from elevated locations towards Slieve Anierin;
- Rural and tranquil farmed landscape; and
- Sense of time depth apparent in presence of ancient tombs and defensive sites on loughs.

### 6.12.6.3 Landscape Quality, Condition and Sensitivity

The landscape is considered to be in good condition although the character of the western part of the LCA is interrupted by tracts of commercial coniferous forestry which are a frequent occurrence and have somewhat eroded the original character. Elsewhere in the LCA, the distinctive drumlin topography and hedgerow field pattern is intact.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The drumlin farmland is generally less sensitive than the lake-land landscapes. The abundant hedgerow and woody vegetation cover is such that this landscape has some capacity to absorb changes without adverse consequences for the baseline landscape character. Drumlin farmland within the setting of Slieve Anierin and with a strong visual connection to this mountain would be more sensitive due to the availability of scenic mountain views.

The lake-lands near Ballinamore are sensitive landscapes due to their openness, scenic quality and biodiversity value

### 6.12.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are a frequent occurrence especially in the western part of the LCA; and

The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

### 6.12.7 Conservation Recommendations

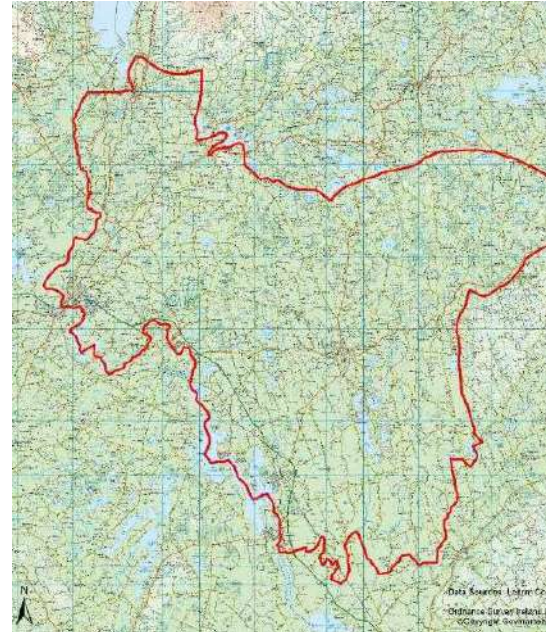
Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing;
- Management of semi natural and natural woodlands by measures such as thinning and replanting with appropriate species;
- Views to and from the distinctive mountain skyline of Slieve Anierin and other elevated ridgelines to be conserved;
- Manage land based farming and other activities to conserve lakeland habitats; and
- Management and control of invasive alien plant species (IAPS).

## 6.13 LCA 13. South Leitrim Drumlins & Shannon Basin

### 6.13.1 Landscape description

The South Leitrim Drumlins & Shannon Basin Character Area comprises an extensive lowland in the southern part of County Leitrim. Its boundary is formed by Lough Allen, the foothills of Sliabh an Iarainn and the Ballinamore Loughlands in the north and by the Corriga Uplands in the east. The southern part of this LCA is relatively flat and features pastoral farmland, peat bogs, marshy areas, small loughs and streams. Further north, the topography changes to distinctive drumlin hills. Mature hedgerows enclose a small-scale field pattern resulting in an intimate landscape. Occasionally enclosure is defined by post and wire fences and in some cases, stone walls. Lough of varying size feature throughout, the largest of which is Lough Rynn. Elevated views are possible across extensive areas from the top of some drumlins and isolated rocky outcrops which rise above the surrounding landscape.



### 6.13.2 Key Characteristics

Key characteristics are as follows:

- Flat to undulating topography in the southern tip of the county transitions to become a more pronounced drumlin hill landscape further north of Drumod and Lough Rynn. Drumlins vary in size, shape and orientation;
- Farmed landscape dominated by pastoral land textured with areas of rush and pasture on hills above surrounding damp lowlands, wetlands, loughs and raised peat bogs;
- A wooded landscape due to mature hedgerows. Extensive broadleaf woodland in the vicinity of Lough Rynn;
- Commercial forestry plantations especially in the northern part of this LCA;
- Some large settlements and larger scale dwellings located along, or at junctions of major communication routes;
- River Shannon dominates the drainage pattern of the area and is a popular tourist and recreational resource;
- Rural roads and settlement patterns are distinct and vary according to topography;
- Particular concentrations of raths and megalithic tombs evident across the landscape;
- Outcrops of limestone form prominent features of the lowland landscape and provide orientation in the confusion of the drumlins;
- Raised peat bogs, loughs and River Shannon, highly valued for their nature conservation value;



- Lower voltage overhead lines on wooden poles are frequent. High voltage transmission line in eastern part of LCA; and
- Churches provide focal points in the landscape along with occasional distant views to the mountains further north.



Lough Rynn

### 6.13.3 Geology and Landform

The undulating topography is comprised mainly of drumlins which cover the underlying limestone bedrock. Drumlins were created by the erosion and deposition action of glacial ice sheets and by ice moulding boulder clay into oval whaleback hills. The alignment of the drumlins, though difficult to appreciate in the field, gives a distinctive alignment to the landscape and indicates the direction of ancient ice flows. Two drumlin fields of different orientation are evident in the area. The largest of these is aligned south-east to north west. A small area of drumlins around Carrick-on-Shannon is aligned south-west to north-east and represents the northern most limits of a drumlin field which runs through County Roscommon. The limestone outcrops of Sheemore and Sheebeg stand proud of the surrounding lowlands and present as hilltop focal points in the local area.

Inter-drumlin hollows are generally flat and occupied by small loughs and streams, most of which drain into the Shannon which occupies an extensive area of flat or very gently undulating land along the full length of the western boundary of the character area. The river is sluggish and divides into multiple channels as it passes through drumlin swarms. Extensive seasonal flooding of surrounding shallow lowlands is frequent.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The quaternary (drift ) geology associated with glaciation resulted in an undulating landscape featuring small drumlin hills with a strong north south orientation. The drumlin hills were formed from

glacial deposits, namely till derived from Limestones. Cut over raised peat occurs in the southern part of the LCA.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology is diverse, comprised of numerous rock types. The northern part of the LCA features limestones and calcareous shales dating back to the Palaeozoic and Carboniferous Period. Further south, a variety of limestones, mudstones and shales occur dating back to the Palaeozoic and Carboniferous Period.

#### 6.13.4 Land Cover

Pastoral farmland is the main land cover type in this LCA. This farmland is enclosed by mature hedgerow vegetation resulting in a strongly defined field pattern. Areas of bog and wet pastures feature in the inter drumlin hollows. A number of areas of commercial coniferous forestry are dispersed throughout, especially in the northern part of the LCA. Small areas of deciduous woodland occur although particularly large areas are found associated with demesne landscapes on Lough Rinn and along the course of the Shannon. These are often closely associated with other demesne features such as stone boundary walls and distinctive gate houses. In the south of the character area woodlands are largely absent although small birch copses on the raised peat bogs which occupy long hollows between the eskers provide some shelter.

Wetlands are numerous along the course of the Shannon and the floodplain and associated features contain a number of highly valuable ecological habitats. Rinn Lough is also one of the few lakes in the whole of County Leitrim which is underlain by limestone. This has a partially calcareous source and is noted for species rich wet grassland, several freshwater marshes and wet woodland located close to the shore. Rinn Lough, The Shannon south of Lough Boderg and numerous areas of raised peat bog are designated as proposed Natural Heritage Areas.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Pastoral farmland enclosed by mature hedgerow vegetation. Areas of bog and wet pastures feature in the inter drumlin hollows. A number of areas of commercial coniferous forestry are dispersed throughout, especially in the northern part of the LCA.



**Areas of wet ground, peat bog and wet pasture inbetween drumlin hollows**

### **6.13.5 Human Influences**

Owing to its irregular terrain and poor drainage the drumlins have been regarded as barrier to communication since prehistoric times. However throughout the character area there is evidence of widespread Neolithic and early Christian activity. On the limestone outcrops, which rise above the lowlands, are a concentration of megalithic tombs, possibly representing the high level of ritual significance these areas of high land possessed. A further cluster may be observed fringing the Corriga Uplands. Between Carrick-on-Shannon and Sheebeg and on the south-west to north east orientated drumlins between Sheemore and the Shannon there are significant clusters of raths, signifying that the area was well settled and utilised as a pastoral landscape. These typically occupy sloping sites with views over the surrounding lowlands.

The existing pattern of rural settlement and field systems largely dates to rationalisation of post-famine Leitrim in the nineteenth century. However a number of much older settlements may be identified. For example Jamestown and Carrick were both Plantation towns; indeed the layout of the main street along which Jamestown was established endures today. Other significant settlements, including Leitrim, Drumshanbo, Drumsna, Dromod, Mohill and Cloone, are located where numerous roads meet.





**Individual isolated traditional dwellings**

The rural settlement pattern comprises individual and clusters scattered dwellings and farms located along minor roads, at villages and at cross-roads. Road routes generally weave between drumlin hills. Towards the southern part of the LCA, road routes, dwellings and settlement is more sparse in the flat landscape featuring peat bogs. Churches, often simple and with a spire, are located close to settlements or loose clusters of houses and often provide an important reference point in the landscape.



**Narrow roads in remote parts of this LCA**

Along the course of the Shannon floodplain where fields and tracks are enclosed by a combination of species rich hedgerows and post and wire fences, settlement is largely absent due to seasonal flooding. Similarly on Sheemore and Sheebeg, where stone walls predominate, there is little settlement.

## 6.13.6 Landscape Evaluation

### 6.13.6.1 County Landscape Designations, Views and Prospects

- Area of Outstanding Natural Beauty (AONB) A7 Sheemore;
- Area of High Visual Amenity (AHVA) B11 River Shannon, Derrycarne and Environs;
- Area of High Visual Amenity (AHVA) B12 Lough Rynn, Lough Sallagh, Lough Errew and Environs;
- Views and prospects V23 View of Slieve an Iarainn from the R280;
- V25 View of River Shannon from the N4 Faulties to Aughamore;
- V26 View of Lough Rynn from Local Roads LP01053 and LS05515;
- V27 View of River Shannon from Local Road LS07426; and
- V28 View of River Shannon from the N4 in the townlands of Munkil and Tully.

### 6.13.6.2 Valued and Sensitive Attributes

- Intimate Lake-land landscapes valued for their scenic quality, in particular Lough Rynn;
- Expansive views from elevated locations in the northern part of this LCA towards Slieve Anierin;
- Rural and tranquil wooded drumlin farmed landscape;
- River Shannon landscape as popular scenic destination;
- Distinctive hilltops of Sheebeg and Sheemore with megalithic tomb is a focal point in the vicinity of Carrick on Shannon; and
- Peat bogs as valued habitats in the southern part of this LCA.

### 6.13.6.3 Landscape Quality, Condition and Sensitivity

Much of the southern part of this landscape is intact. Field patterns are strongly defined by mature hedgerows and the characteristic drumlin topography remains as largely unchanged to the present day. The presence and visibility of transmission infrastructure, however, is a local detractor in the area.

The character of the northern part of this LCA has become partly eroded with commercial coniferous forestry replacing much of the pastoral drumlin farmland. Also some poorly managed hedgerow field boundaries are being replaced with post and wire fences.

The landscape is valued as recognised in the County Designations and the valued and sensitive attributes documented above.

The drumlin farmland is less sensitive than the lake-land and bog areas. In areas where hedgerow vegetation is abundant along with woodland cover, the landscape is less sensitive.

Open areas of bogland in the south of the LCA with limited woody vegetation cover are considered to be sensitive due to habitat value along with visual openness. The landscapes associated with the loughs and rivers are also considered to be sensitive due to scenic quality, visual openness and cultural heritage associations.

Areas in the north of the LCA which are within the setting of Slieve Anierin are also sensitive due to the available views towards this mountain massif.

Distinctive local ridgelines overlooking the Shannon River such as that at Sheemore and associated foothills are an important focal point in the local area and hence are sensitive landscapes.

### **6.13.6.4 Forces for Change**

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations especially in the northern part of the LCA; and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

### **6.13.7 Conservation Recommendations**

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting and traditional stone walls to field boundaries are preferable to post and wire fencing;
- Management of semi natural and natural woodlands by measures such as thinning and replanting with appropriate species;
- Manage farming and other land based activities to conserve valued wetland habitats such as rivers, river meadows and inter drumlin wetlands;
- Manage farming and other land based activities to conserve valued bogland habitats; and
- Management and control of invasive alien plant species (IAPS).



## 6.14 LCA 14. Corriga Uplands

### 6.14.1 Landscape description

The Corriga Uplands is a subtle but distinctly elevated area in the south western part of County Leitrim. It is a sparsely settled and relatively remote, tranquil farmed landscape. A small-scale field pattern is strongly defined by mature hedgerows which are abundant throughout. The southern part of this LCA slopes gently down to a series of small loughs associated with the Cullies river. Landscapes within the heart of the area are intimate and secretive with views restricted by drumlin landform and vegetation. Long views are available from sloping hillsides over the surrounding lowlands and towards upland landscapes further north. Views are also available towards a distinctive ridgeline in the neighbouring County Longford.



### 6.14.2 Key Characteristics

Key characteristics are as follows:

- An undulating domed unit of uplifted geology rising above the surrounding drumlins and damp lowland;
- Patchwork of small-scale fields enclosed by mature hedgerow vegetation;
- Areas of pasture overtaken by wetland species, rushes etc;
- Large scale silage fields offer an interesting contrast to the intricate patchwork of smaller pasture fields;
- Tracts of commercial forestry in the northern part of the LCA;
- Small-scale settlement of old cottages away from roads;
- Occasional long-range views to other elevated landscapes and ridgelines; and
- Hillsides fretted by numerous streams draining the upland.



**Elevated ridge with panoramic views to the north with pastoral drumlin farmland in the foreground**



**Views from elevated ridgeline towards Corn Hill in Co. Longford**



### 6.14.3 Geology and Landform

The area is formed from Lower Palaeozoic rocks which are part of the Longford-Down massif. The rocks are mainly slates and impure sandstones with small areas of volcanic and intrusive rocks which were tilted and raised at the end of the Silurian period. The landscape is gently undulating and rises to 190 m AOD at Lugganammer. Rocky streams draining the uplands generally flow northwards and southwards, and have eroded the slopes into a series of distinctive undulations. These streams flow into the Cullies River, which is bordered by extensive wet pastures and links a series of small loughs. Soils are moderately well drained and have a moderately wide use range.

**Quaternary (Drift) Geology** (Geological Survey of Ireland, Quaternary Sediments map dataset 2017):

- The quaternary (drift) geology associated with glaciation resulted in an undulating landscape featuring small drumlin hills with a strong north south orientation. These hills were formed during glaciation and comprise till derived from Lower Palaeozoic sandstones and shales.

**Bedrock (Solid) Geology** (Geological Survey of Ireland, Bedrock 500k Scale map dataset):

- The underlying bedrock geology is comprised of Marine to fluvial; Greywacke, shale, sandstone & conglomerate (Derryveeny Formation) dating back to the Palaeozoic, Middle - Upper Ordovician Period.

### 6.14.4 Land Cover

Pastoral farmland is the main land cover type in this LCA. This farmland is enclosed by mature hedgerow vegetation resulting in a strongly defined field pattern. A few small areas of land in the northern part of the LCA feature commercial coniferous forestry. Areas of rush and pasture and isolated patches of raised peat bogs are also present together with small areas of mixed species woodland.

**Corine Land Cover 2018** (Environment Protection Agency, Corine Land Cover map dataset 2018):

- Pastoral farmland with hedgerow and woody vegetation features in this landscape together with patches of plantation coniferous forest.

### 6.14.5 Human Influences

The farmed hills are largely devoid of ancient monuments although the area is fringed by a number of megalithic tombs and standing stones, indicating some ritual activity in prehistoric times. The current rural settlement pattern largely dates to post famine rationalisation. Main roads criss-cross the landscape. Small traditional cottages are dispersed along hedged roads with farms at the end of narrow winding lanes. Large farmhouses, barns and fields also feature in this landscape together with more contemporary individual scattered dwellings. No true towns or villages exist although certain hamlets such as Corriga provide simple community facilities. The course of the Cullies River and the series of inter-connected loughs remains relatively undeveloped. Numerous routes onto the uplands cross the river at bridging points between the loughs.

### 6.14.6 Landscape Evaluation

#### 6.14.6.1 County Landscape Designations, Views and Prospects

- No designated landscapes, views and prospects occur within the Corriga Uplands LCA



### 6.14.6.2 Valued and Sensitive Attributes

- Expansive views of hills further south are available from elevated locations within this landscape;
- Ridgelines at and above the 160m contour line present as distinctive skylines and focal points in the area; and
- Intact field pattern with native species mature hedgerows.

### 6.14.6.3 Landscape Quality, Condition and Sensitivity

The condition of the landscape is good, being well managed productive farmland. Field patterns are intact and strongly defined by mature hedgerows. The character of the eastern part of the LCA is affected at a local level by transmission infrastructure.

The landscape is valued for the attributes as documented above .

The sloping hillsides and ridgelines are sensitive landscapes due to their visual openness and the fact that these skylines are visible as distinctive landmarks from much of the surrounding lowlands. The Cullies River and the series of loughs fringing the lower slopes of the uplands are also sensitive to change as they are largely un-developed. The sparse settlement pattern is a distinctive feature particularly on the undulating summit of the uplands. The lowland areas with the strong hedgerow pattern are less sensitive landscapes.

### 6.14.6.4 Forces for Change

Forces for change, currently visible in the landscape include:

- Commercial forestry plantations are apparent resulting in localised changes to landscape character; and
- The continued spread of invasive alien plant species will reduce the biodiversity value of ecological features, including hedgerows.

### 6.14.7 Conservation Recommendations

Specific recommendations, in addition to the need to conserve sensitive and valued landscape attributes identified above, as follows:

- Native species hedgerows planting to field boundaries is preferable to post and wire fencing. Hedge trees are favoured in line with local character and hedgerow pattern;
- Management of semi natural and natural woodlands by measures such as thinning and replanting of appropriate species;
- Manage land based farming and other activities to conserve wetland habitats along the Cullies River; and
- Management and control of invasive alien plant species (IAPS).

## 7 REFERENCES

Natural England (2014), *An Approach to Landscape Character Assessment*.

The Heritage Council (2010), *An Introduction to Landscape Character Assessment (LCA)*, Transcript Notes from the CPD Training Course provided by Heritage Council in 2010.

Department of Arts, Heritage and the Gaeltacht (2015), *National Landscape Strategy for Ireland 2015 – 2025*.

F. H. A. Ahlen (1997), *Atlas of the Irish Rural Landscape*, Cork University Press.

Frank Mitchell and Michael Ryan (2003), *Reading The Irish Landscape*, Town house Dublin.

Mac Dermott, Long and Harney (1996) *Geology of Sligo and Leitrim*, Geological Survey of Ireland

Flowerdew and Mc Keever (c. 1998), *Explore West Breifne*, Geological Survey of Ireland

National Inventory of Architectural Heritage (2004) *An Introduction to the Architectural Heritage of County Leitrim*, Wordwell.

Department of The Environment, *Earthen Banks and Broken Walls*, Leaflet Department of The Environment

Manning (2004), *Irish Field Monuments*, Department of The Environment.

Environmental Resources Management (2002), *Landscape Character Assessment of County Leitrim*, Leitrim County Council;

Colin Buchanan and Partners (2005), *Waterways Corridor Study 2005 Upper Shannon*, The Heritage Council.

Planning Policy Unit, Donegal County Council (2016), *Landscape Character Assessment of County Donegal*, Donegal County Council.

Longford County Development Plan 2015-2021, *Appendix 4 Landscape Character Assessment*, Longford County Council.

Roscommon County Development Plan 2014-2020, *Landscape Character Assessment of County Roscommon*, Roscommon County Council.

Land Use Consultants (2006), *Northern Ireland Landscape Character Assessment*, Northern Ireland Environment Agency.

**Appendix A**

**Field Survey Sheet**



## FIELD SURVEY SHEET – LEITRIM LANDSCAPE CHARACTER ASSESSMENT REVIEW – 2019

### LANDSCAPE CHARACTERISTICS

#### General

Date and time	Weather Conditions	Grid Reference	Photo ID	Location	Landscape Character Type	Landscape Character Area

#### Geology / Topography

Flat	Steep	Plain	Dry valley
Undulating	Vertical	Rolling Lowland	Deep Gorge
Rolling	Scarp / cliffs	Plateau	Broad Valley
		Hills	Narrow Valley

#### Dominant Landcover and Landscape Elements

BUILDINGS	HERITAGE	FARMING	LANDCOVER	WOODLAND / TREES	HYDROLOGY	COMMUNICATIONS
Farm buildings	Vernacular buildings	Walls	Designed landscape	Deciduous	River	Road
Masts / poles	Country house	Fences	Scrub	Coniferous	Stream	Track
Pylons	Field systems	Hedges	Marsh	Mixed woodland	Reservoir	Footpath
Industry	Prehistoric ritual	Fields	Marsh	Shelterbelt	Dry valley	Lane
Settlement	Hilltop enclosure / fort	Arable	Peat bog	Hedge trees	Pond	Railway
Urban	Ecclesiastic	Improved pasture	Moor / heath	Orchard	Lake	Military
Follies	Monuments	Rough grazing	Rough grassland	Clumps	Drainage ditch	Pylons
Military	Coppice	Hedge-banks	Water meadows	Isolated trees		Communications masts
		Orchard	Grassland			
			Species rich grassland			

### VISUAL CHARACTERISTICS

COLOUR	Monochrome	Muted	Colourful	Garish
TEXTURE	Smooth	Textured	Rough	Very rough
PATTERN	dominant	Strong	Broken	Weak
FORM (3 dimensional)	Straight	Angular	Curved	Sinuuous
SCALE	Intimate	Small	Medium	Large
COMPLEXITY	Uniform	Simple	Diverse	Complex
REMOTENESS	Wild	Remote	Vacant	Active

## REPORT

---

UNITY	Unified	Interrupted	Fragmented	Chaotic
ENCLOSURE	Expansive	Open	Enclosed	Constrained
VISUAL DYNAMIC	Sweeping	Spreading	Dispersed	Channelled

### Perceptual criteria

SOUND	Quiet/remote				Noisy populated
SMELL	Clean rural	Briny (near Sea)			Urban smells
TOUCH					
MEMORIES/Associations					
SECURITY	Intimate	Comfortable	Safe	unsettling	threatening
STIMULUS	Monotonous	Bland	Interesting	Challenging	Inspiring
TRANQUILLITY	Inaccessible	Remote	Vacant	Peaceful	Busy
PLEASURE	Unpleasant	Pleasant	Attractive	Beautiful	

Brief Description / Key characteristics/Distinctive features and why they are important

Quality and Condition

Value (Rarity)

Architecture / Local materials – stone type/colour/texture.....brick colour/size/render, Combinations – stone and brick patterns etc. Vernacular style – window style / roof pitch. Settlement Form – (village greens, clustered, nucleated, military, scattered)