

# SEA ENVIRONMENTAL REPORT

## APPENDIX III – NON-TECHNICAL SUMMARY

---

FOR THE

### LEITRIM COUNTY DEVELOPMENT PLAN 2023-2029

for: **Leitrim County Council**

Áras An Chontae  
St. George's Terrace  
Carrick on Shannon  
County Leitrim



**Comhairle Chontae Liatroma  
Leitrim County Council**

by: **CAAS Ltd.**

1<sup>st</sup> Floor  
24-26 Ormond Quay Upper  
Dublin 7



**MARCH 2023**

## Table of Contents

<b>Section 1</b>	<b>Introduction and Terms of Reference .....</b>	<b>1</b>
<b>Section 2</b>	<b>The Plan.....</b>	<b>4</b>
2.1	Introduction and Content.....	4
2.2	Vision and Strategic Aims .....	4
2.3	Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development.....	6
2.4	Relationship with other relevant Plans and Programmes.....	6
<b>Section 3</b>	<b>The Environmental Baseline.....</b>	<b>7</b>
3.1	Introduction .....	7
3.2	Likely Evolution of the Environment in the Absence of the Plan .....	7
3.3	Biodiversity and Flora and Fauna.....	8
3.4	Population and Human Health.....	9
3.5	Soil.....	9
3.6	Water .....	11
3.7	Air and Climatic Factors.....	14
3.8	Material Assets .....	15
3.9	Cultural Heritage.....	16
3.10	Landscape.....	17
3.11	Strategic Environmental Objectives.....	17
<b>Section 4</b>	<b>Alternatives .....</b>	<b>19</b>
4.1	Introduction .....	19
4.2	Limitations in Available Alternatives .....	19
4.3	Type 1: Alternatives for an Ecosystem Services Approach to the Plan .....	19
4.4	Type 2: Alternatives for Population Allocations.....	20
4.5	Type 3: Alternatives for Settlement Role or Specialisms.....	22
4.6	Type 4: Serviced Sites within Rural Settlements.....	22
4.7	Type 5: Alternatives for Renewable Energy .....	23
4.8	Reasons for Choosing the Selected Alternatives in light of Other Reasonable Alternatives Considered .....	23
<b>Section 5</b>	<b>Summary of Effects arising from Plan.....</b>	<b>24</b>
<b>Section 6</b>	<b>Mitigation and Monitoring Measures .....</b>	<b>30</b>
6.1	Mitigation.....	30
6.2	Monitoring.....	30

# Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report for the Leitrim County Development Plan 2023-2029, hereafter referred to as the “Plan”. The purpose of the Environmental Report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan. The Environmental Report has been prepared as part of a Strategic Environmental Assessment (SEA) process for the Plan.

## What is SEA?

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic, social and other considerations.

## Why is SEA needed? The Benefits

SEA is the planning authority’s and the public’s guide to what are generally the best areas for development in the County.

SEA enables the planning authority to direct development towards robust, well-serviced and connected areas in the County – thereby facilitating the general avoidance of incompatible areas in the most sensitive, least well-serviced and least well-connected areas.

SEA provides greater certainty to the public and to developers. Plans are more likely to be adopted without delays or challenges and planning applications are more likely to be granted permission. Environmental mitigation is more likely to cost less.

An overlay of environmental sensitivities in County Leitrim is shown on Figure 1.1. Further detail on the weighting applied to different sensitivities is provided under Section 4.14.

An overlay of environmental sensitivities in County Leitrim is shown on Figure 1.1.

The overlay mapping shows that environmental sensitivities are not evenly distributed throughout the County. Most of the County is identified as having low to moderate levels of sensitivity.

The most sensitive areas in the County include:

- Upland areas, such as the Arroo and Mountain Outliers, the Tievebaun Uplands, the Doons and Crockauns and the Boleybrack Uplands in the northern half of the County – on account of landscape designations, landslide susceptibility, ecological designations and groundwater vulnerability; and
- Lakes throughout the County, including Lough Allen, Lough Melvin and Lough MacNeane Upper, on account of ecological and landscape designations, water status and flood risk;
- Certain locations and areas within the existing built-up footprint of the County’s settlements, on account of cultural heritage designations, including entries to the Record of Monuments and Places, Entries to the Record of Protected Structures and Architectural Conservation Areas;
- Coastal areas and areas adjacent to rivers and streams, on account of ecological and visual sensitivities and elevated levels of flood risk; and
- Extensive areas of extreme and high groundwater vulnerability throughout the County.

### **How does the SEA work?**

All of the main environmental issues in the area were assembled and considered by the team who prepared the Plan. This helped them to devise a Plan that contributes towards the protection and management of environmental sensitivities. It also helped to identify wherever potential conflicts between the Plan and the environment exist and enabled these conflicts to be mitigated.

The SEA was scoped in consultation with designated environmental authorities.

### **What is included in the Environmental Report that accompanies the Plan?**

- A description of the environment and the key environmental issues;
- A description and assessment of alternatives for the Plan;
- An assessment of the provisions of the Plan; and,
- Mitigation measures, which will avoid/reduce the environmental effects of implementing the Plan and will contribute towards compliance with important environmental protection legislation.

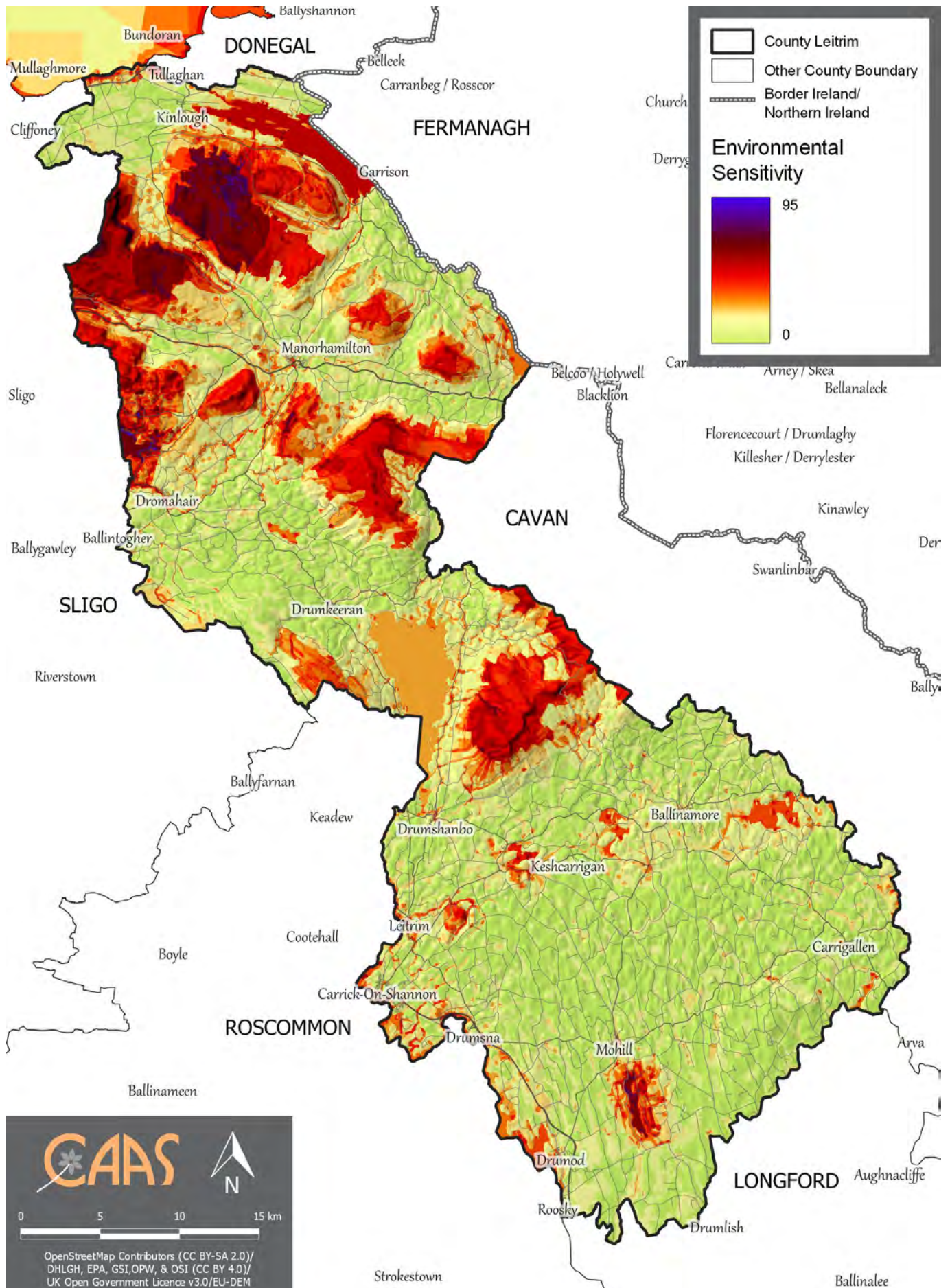
### **Difficulties Encountered during the SEA process**

No significant difficulties have been encountered during the undertaking of the assessment to date. There was limited water services information available for some settlements within the County however objectives requiring the provision of appropriate levels of water services alongside new development have been integrated into the Plan.

There is a data gap relating to WFD surface water status data. There are a number of waterbodies within the Plan area with overall status currently not assigned to them and the term "unassigned status" applies in respect of these waterbodies. The SEA ensured that the Plan contains measures that will contribute towards the maintenance and improvement of status of all water bodies within the zone of influence.

### **What happens at the end of the process?**

An SEA Statement is prepared which summarises, inter alia, how environmental considerations have been integrated into the Plan.



**Figure 1.1 Environmental Sensitivities that the Plan directs incompatible development away from**

## Section 2 The Plan

### 2.1 Introduction and Content

The Plan provides for the proper planning and sustainable development of County Leitrim over the period 2023-2029. It consists of a number of volumes with Volume 1 providing a written statement and maps over 13 chapters as follow:

- Chapter 1: Introduction
- Chapter 2: Core Strategy
- Chapter 3: Housing
- Chapter 4: Economic Development, including Retail
- Chapter 5: Tourism
- Chapter 6: Urban Settlements
- Chapter 7: Sustainable Communities
- Chapter 8: Transportation
- Chapter 9: Infrastructure and Energy
- Chapter 10: Rural Development
- Chapter 11: Heritage
- Chapter 12: Climate Action and Renewable Energy
- Chapter 13: Development Management Standards

Appendix I of the Written Statement contains a Statement prepared in accordance with Section 28 (1A) of the Planning and Development Act 2000 (as amended) demonstrating how the Planning Authority in preparing the Development Plan has implemented the policies and objectives set out in Ministerial Guidelines issued under Section 28 of the Act.

Volume II contains Settlement Plans for towns and villages.

Volume III comprises the Book of Maps for both Volume I (Written Statement) and for Volume II (Settlement Plans).

Volume IV contains the proposed Record of Protected Structures.

The Plan also includes a range of supporting documents and strategies, including this SEA Environmental Report Non-Technical Summary.

### 2.2 Vision and Strategic Aims

The vision for Leitrim proposed for the County Development Plan 2023-2029 is: "County Leitrim to be a vibrant, creative, economically strong, socially inclusive, progressive and distinctive county, providing a quality experience for all who live in, work in, invest in and visit our county, fostering the development and wellbeing of our communities, offering excellent opportunities for employment across a diverse range of sectors, embracing the challenges which climate change presents in a responsible and practical manner while protecting, conserving and enhancing the best of the natural and built environment".

In order to achieve this Overall Vision, the County Development Plan contains a number of strategic aims which are set out in this section. These aims are then expanded upon in the individual chapters which follow:

1. To guide the future development of Leitrim in line with the principles and objectives provided in the NPF and in the RSES for our region including the population projections set out therein;
2. To promote and facilitate the development of the county in accordance with the provisions of the Core Strategy, including directing appropriate levels of residential development in line with the Settlement hierarchy;
3. To ensure that towns and villages grow at a sustainable and appropriate level whilst pursuing a compact growth policy and seeking to better integrate transport and land use planning at a level practicable to Co. Leitrim;

4. To develop Carrick on Shannon (Key Town) as a settlement of regional scale for accelerated population growth through the delivery of significant compact growth and developing identified derelict and under utilised sites, with an initial focus within the town core. Carrick on Shannon is also identified as a key driver of economic development in the county.
5. To deliver at least 30% of all new homes that are targeted in Carrick on Shannon, Ballinamore and Manorhamilton within the existing built-up footprints on infill and/or brownfield sites with a reduced target of 20% for the remaining lower tier settlements in the Settlement Hierarchy.
6. To pursue balanced growth elsewhere within the county at an appropriate scale based upon the varied growth potential of different places to include individual houses in rural areas. The Core Strategy targets housing and employment growth in settlements that have the capacity to absorb such growth in a sustainable manner with the commensurate provision of the required supporting social infrastructure and community facilities.
7. To support a rural housing policy for the open countryside which will seek to balance the need to sustain rural communities with the need to protect Leitrim's natural heritage, environment and landscape qualities. The rural housing policy will differentiate between the pressure for one off housing in the areas surrounding large towns (Carrick on Shannon and the impact of Sligo extending into Co. Leitrim) where an economic and social tie to an area must be established from the remainder of the countryside.
8. To support the appropriate and sustainable development of rural areas by encouraging growth and arresting decline in areas that have experienced low population growth or decline in recent decades and by managing the growth of areas that are under strong urban influence to avoid over-development, while sustaining vibrant rural communities.
9. To promote Carrick on Shannon as the main retail centre in the County with the provision of retail in other centres commensurate with their roles.
10. To support the vitality and viability of existing town and village centres and facilitate a competitive and healthy environment for the retailing sector by ensuring that future growth in retail floorspace responds to the identified retail hierarchy, the sequential approach, and the needs of the projected population of the settlement areas.
11. To create the appropriate conditions necessary to foster a healthy and vibrant retail environment in the county.
12. Include objectives to support proposals for regeneration, rejuvenation of vacant and derelict sites, town and village centre renewal and public realm enhancement.
13. To support, in principle, development that addresses climate change in terms of adaptation and mitigation measures including increasing flood resilience, the promotion of sustainable transport options and the development of renewable energy technologies where possible to achieve a successful transition to a low carbon economy.

Underpinning the strategic aims above in relation to population growth, housing requirements and the future spatial development of our county are the following complementary strategic aims which are integral in delivering the vision for the county during the period 2023-2029:

1. To build on the regional-level linkages between County Leitrim and other parts of the Northern and Western Region (with particular emphasis on the Sligo Regional Growth Centre) and adjoining regions such as the Eastern and Midlands Region and Fermanagh & Omagh District Council in Northern Ireland and by supporting the implementation of regional spatial and economic strategies, collaborating on support for critical enabling infrastructure, such as inter-regional road linkages, and co-operating on areas of mutual planning interest;
2. To target Foreign Direct Investment (FDI) and Irish Indigenous industries to appropriate zoned locations and build on the economic strengths and tourism opportunities of County Leitrim in a balanced and sustainable manner focusing on the considerable opportunities within our county;
3. To facilitate the provision of and improvements to community, social and recreational infrastructure and ensure universal access to all to such facilities throughout the county for all its residents;
4. To facilitate job creation within the county to ensure that the county grows in a sustainable manner;
5. To provide for sustainable transport infrastructure and connectivity including walking and cycling infrastructure and initiatives and optimize the return of investment on infrastructure while preserving the natural and built heritage;
6. To achieve a sustainable, integrated and low carbon transport system for the county and to protect, improve and extend water services and other enabling infrastructure in line with national, regional and local population and economic growth for the county;



7. To protect, conserve and enhance the built, natural and cultural environment through promoting awareness, utilizing relevant heritage legislation and promoting good quality urban and rural design;
8. To support the development of key infrastructure such as telecommunications, electricity and sources of renewable energy to enable and facilitate economic development.
9. To ensure co-ordination between land use zoning and infrastructure availability through the implementation of the 'Tiered Approach to Land Use Zoning' as required under the NPF

### **2.3 Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development**

Far in advance of the submission of the pre-Draft Plan to the Elected Members for approval, the placing of the Draft Plan on public display and the adoption of the Plan, Leitrim County Council undertook various works in order to inform the preparation of the Plan. The findings of this strategic work have been integrated into the Plan and will contribute towards both environmental protection and management and sustainable development within the County. Strategic work undertaken by the Council includes background work in relation to Plan Strategies and other provisions for a variety of sectors, including: Housing; Economic Development; Tourism; Urban Settlements; Sustainable Communities; Transport; Infrastructure and Energy; Rural Development; Heritage; and Climate Action and Renewable Energy.

The undertaking of this SEA process and the associated AA and SFRA processes contributed towards the integration of environmental considerations into individual Plan provisions as summarised in Section 6 of this report.

### **2.4 Relationship with other relevant Plans and Programmes**

It is acknowledged that many of the major issues affecting the County's development are contingent on national policy and government funding.

The Plan sits within a hierarchy of statutory documents setting out public policy for, among other things, land use planning, infrastructure, sustainable development, tourism, environmental protection and environmental management. The Plan must comply with relevant higher-level strategic actions and will, in turn, guide lower-level strategic actions. These documents include plans and programmes such as those detailed in Appendix of the main SEA ER. These documents have been subject to their own environmental assessment processes, as relevant.

The National Planning Framework (NPF) sets out Ireland's planning policy direction up to 2040. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSEs) and lower tier Development Plans and Local Area Plans. The RSE for the Northern and Western Region sets out objectives for land use planning, tourism, infrastructure, sustainable development, environmental protection and environmental management that have been subject to environmental assessment and must be implemented through the County Development Plan.

As required by the Planning and Development Act 2000, as amended, the County Development Plan is consistent with and conforms with national and regional policies, plans and programmes, including the NPF and the RSE for the Northern and Western Region. The County Development Plan will, in turn, guide lower-level strategic actions, such as Local Area Plans that will be subject to their own lower-tier environmental assessments.

In order to be realised, projects included in the County Development Plan (in a similar way to other projects from any other sector) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent-granting framework.



## Section 3 The Environmental Baseline

### 3.1 Introduction

The summary of the environmental baseline of the County is described in this section. This baseline together with the Strategic Environmental Objectives, which are identified in Section 3.11, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Plan and in order to determine appropriate monitoring measures.

### 3.2 Likely Evolution of the Environment in the Absence of the Plan

In the absence of a new Plan it is uncertain how permission for new development would be applied for and considered. The 2015 County Development Plan has contributed towards environmental protection within County Leitrim. If the 2015 Plan was to expire and not be replaced by the 2023-2029 Plan, this would result in a deterioration of the County's planning and environmental protection framework. Although higher level environmental protection objectives – such as those of various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be less coordinated and controlled.

Such adverse effects could include:

- Arising from both construction and operation of development and associated infrastructure:
  - Loss of/damage to biodiversity in designated sites (including European Sites, Wildlife Sites and Areas of Special Scientific Interest) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna;
  - Habitat loss, fragmentation and deterioration, including patch size and edge effects; and
  - Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.
- Potential interactions if effects arising from environmental vectors.
- Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands.
- Potential for riverbank and coastal erosion.
- Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology.
- Increase in flood risk and associated effects associated with flood events.
- Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Increases in waste levels.
- Potential impacts upon public assets and infrastructure.
- Interactions between agriculture and soil, water, biodiversity and human health – including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter.
- Risk of aggregate potential sterilisation
- Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives.
- Potential conflicts between transport emissions, including those from cars, and air quality.
- Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors.
- Potential conflicts with climate adaptation measures including those relating to flood risk management.

### 3.3 Biodiversity and Flora and Fauna

Information on biodiversity and flora and fauna that is relevant to project planning and development and associated environmental assessment and administrative consent of projects includes available information on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats.

The most ecologically sensitive, heavily designated and protected areas within County Leitrim include an extensive network of lakes, uplands, bogs and native woodlands. Rural and agricultural areas (including marginal land such as hedgerows and rough grassland) that may include ecological sensitivities occur throughout the County.

Designated sites within the County include Special Areas of Conservation<sup>1</sup> (SACs) and Special Protection Areas<sup>2</sup> (SPAs). These are mapped on Figure 3.1. There are nine European sites (eight SACs and one SPA) are designated within or partially within County Leitrim. Other ecological designations occur within and adjacent to the County and these are detailed in the main SEA Environmental Report.

CORINE<sup>3</sup> land cover mapping shows that the most dominant land cover types within the Plan area are pastures and agricultural lands. The most dominant land cover types are pastures and agricultural lands, with significant areas of peatland in the northern half of the County. Categories from CORINE mapping that may indicate areas with the potential for Annex I habitats include: non-irrigated arable land; pastures; complex cultivation patterns; land principally occupied by agriculture with significant areas of natural vegetation; broad-leaved forest; coniferous forest; mixed forest; natural grasslands; moors and heathland; transitional woodland-shrub; inland marshes; peat bogs; water courses; and water bodies.

#### Existing Problems

Ireland's Article 17 report on the Status of EU Protected Habitats and Species in Ireland (DCHG, 2019) identifies various Irish, EU-protected habitats and species to be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. Categories for pressures and threats on Ireland's habitats and species identified by the report include: Agriculture; Forestry; Extraction of resources (minerals, peat, non-renewable energy resources); Energy production processes and related infrastructure development; Development and operation of transport systems; Development, construction and use of residential, commercial, industrial and recreational infrastructure and areas; Extraction and cultivation of biological living resources (other than agriculture and forestry); and Climate change.

Ireland's Article 12 Birds Directive Reports and the 6<sup>th</sup> National Report under the Convention of Biological Diversity identify similar issues.

The Plan includes measures to contribute towards the protection of biodiversity and flora and fauna and associated ecosystem services. Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna however, legislative objectives governing biodiversity and fauna were not identified as being conflicted with.

<sup>1</sup> SACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000.

<sup>2</sup> SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive - due to their conservation value for birds of importance in the EU.

<sup>3</sup> The CORINE (Coordinated Information on the Environment) land cover data series was devised as a means of compiling geo-spatial environmental information in a standardised and comparable manner. CORINE has become a key data source for informing environmental and planning policy on a national and European level. The main land cover type in Ireland is agricultural land including forestry, which accounts for two-thirds of the national landmass. Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost one-fifth of the country. While forested areas cover about one-tenth of the country. Despite rapid development in the past two decades, Ireland's landscape is predominantly rural and agricultural.

### 3.4 Population and Human Health

In the 2016 Census the total population of County Leitrim was identified as being of 32,044 persons, an increase in total population in the County by c. 0.8% (c. 246 persons) since the previous census. The population growth projections for the County indicate population growth up to 35,000 - 35,500 persons by 2026 and up to 36,000 - 37,000 persons by 2031.

Carrick-On-Shannon is Leitrim's County Town and the largest settlement in the County. It is designated as a Key Town in the Regional Spatial and Economic Strategy for the Northern and Western Region. It is a significant employment centre and its strategic position on the River Shannon supports various tourism and transport functions. Key Towns provide important connections with adjoining regions and have the capacity and future growth potential to accommodate above average growth in tandem with the requisite investment in employment creation, services, amenities and sustainable transport.

The new population provided for by the Plan will interact with various environmental components. Potential interactions include:

- Recreational and development pressure on habitats and landscapes;
- Increase in demand for waste water treatment at the municipal level;
- Increase in demand for water supply and associated potential impact of water abstraction;
- Potential interactions in flood-sensitive areas; and
- Potential effects on water quality.

Human health has the potential to be impacted upon by environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

#### Existing Problems

There is historic and predictive evidence of flooding in various locations across the County.

The greatest health risk from radiation in Ireland is caused by radon. The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, occurs across the country. The number of homes within the County with radon levels above the reference level is within the normal range experienced in other locations across the country.

### 3.5 Soil

Surface water gleys<sup>4</sup> (found throughout the County) are the most dominant soil type in County Leitrim. Peat soils are found throughout County.

Geological Survey of Ireland coordinates the Irish Geological Heritage Programme, which seeks to identify and select sites of geological interest within each county across the country. The audit of County Geological Sites in County Leitrim was completed in 2020 and identified 32 County Geological Sites. Concentrations of these designations can be found in the upland areas and in the north of the County.

---

<sup>4</sup> Surface water gleys and groundwater gleys are wetland soils with slowly permeable horizons resulting in seasonal waterlogging.  
CAAS for Leitrim County Council







## 3.6 Water

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving good status. All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status.

The County is situated within the surface water catchments Erne, Sligo Bay and Upper Shannon. The main waterbodies in the County include Lakes Melvin and Allen and the Rivers Shannon, Erne, Duff, Cloone and Yellow.

The WFD surface water status (2013-2018), for rivers, canals, lakes, coastal and transitional waters within and surrounding the County is shown on Figure 3.2. The WFD status of most of the rivers and lakes within the County is classified as *moderate*, *good* and *high*, however some sections<sup>5</sup> of rivers, canals and lakes are identified as *bad*<sup>6</sup> and *poor*<sup>7</sup> due to unsatisfactory ecological/biological and/or physio-chemical status. The WFD surface water status (2013-2018) of coastal (including Bundoran Bay Donegal Bay – Erne) and transitional waterbodies (including Drowes Estuary and Duff Estuary) within and surrounding the County is identified as *unassigned*<sup>8</sup>.

The WFD status (2013-2018) of groundwater underlying the entire County is identified as being of *good* status, apart from an area of *poor*<sup>9</sup> status adjacent to the north-east of the County.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter into groundwater. The vulnerability of aquifers underlying the County are mapped on Figure 3.3 and is generally classified as being of:

- *Low*, throughout the County's lowland areas;
- *High and moderate vulnerability*, mainly in the north and east of the County; and
- *Extreme vulnerability and extreme (rock at or near surface or karst)* mainly in the north and north-west of the County.

Certain areas across the County are at risk from flooding from sources including groundwater, pluvial<sup>10</sup>, fluvial<sup>11</sup> and coastal<sup>12</sup>. Locations within the County that are at elevated levels of flood risk include: Ballinamore; Carrick-on-Shannon; Drumshanbo; Leitrim; Manorhamilton; and Mohill.

### Existing Problems

Subject to exemptions provided for by Article 4 of the WFD, based on available water data, certain surface and groundwater bodies will need improvement in order to comply with the objectives of the WFD.

The Plan includes provisions that will contribute towards improvements in the status of waters.

There is historic and predictive evidence of elevated levels of flood risk from fluvial sources at various locations across the County.

<sup>5</sup> As per EPA classification system ([gis.epa.ie/EPAMaps](http://gis.epa.ie/EPAMaps))

<sup>6</sup> Including Lake Rinn.

<sup>7</sup> Including rivers and lakes: Bradoge; Cullies; Douglas (Sligo); Drumshanbo Stream; Garavogue; Gowlaunrevagh; Killanummery; Laheen Stream; Legga Stream; Rinn; Shannon (Upper); Yellow (Ballinaglera); Acres; Belhavel; Bofin LM; Derrycassan Mid; Glasshouse; Macnean Upper; Scur and Shannon Erne (Upper Shannon A).

<sup>8</sup> There is a data gap relating to WFD surface water status data. Overall status is currently not assigned and the term "*unassigned status*" applies in respect of these waterbodies.

<sup>9</sup> Underlying: Belcoo Boho

<sup>10</sup> Resulting from high intensity rainfall events where run-off volume exceeds capacity of surface water network.

<sup>11</sup> Watercourse capacity is exceeded or the channel is blocked and excess water spills from the channel onto adjacent floodplains.

<sup>12</sup> Resulting from higher sea levels than normal causing the sea to overflow onto land. Such flooding is influenced by high tide level, storm surges and wave action.







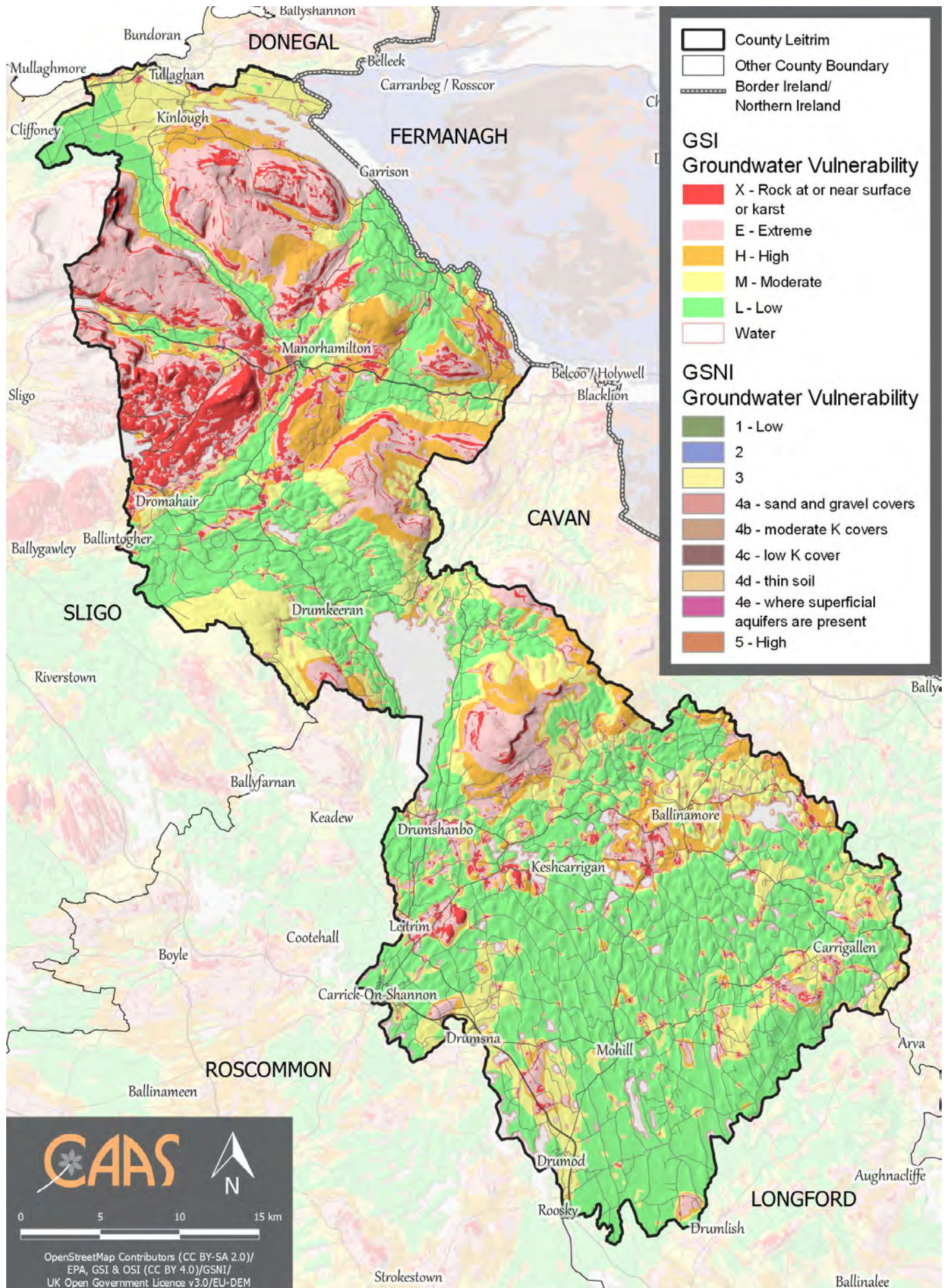


Figure 3.3 GSI Groundwater Vulnerability (2013-2018)



### 3.7 Air and Climatic Factors

Total emissions of greenhouse gases by humans come from various sectors including transport, agriculture, energy industries, manufacturing combustion, industrial processes, residential developments, commercial services developments, waste management processes and fluorinated gases equipment (such as refrigeration and fire protection systems).

In 2020 the sectors with the largest contribution of emissions were agriculture (37.4%), transport (18.4%) and energy industries (14.8%). This projection includes the impact of COVID on the 2020 emissions, which due to national lockdowns saw transport emissions decline, but agriculture emissions were largely unaffected.

The revised National Climate Action Plan 2023 provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions by no later than 2050. The Plan lists the actions needed to deliver on climate targets and sets indicative ranges of emissions reductions for each sector of the economy. Updates to the Climate Action Plan are intended to be issued periodically, to ensure alignment with Ireland's legally binding economy-wide carbon budgets and sectoral ceilings.

Climate mitigation describes action to reduce the likelihood of climate change occurring or reduce the impact if it does occur. This can include reducing the causes of climate change (e.g. emissions of greenhouse gases) as well as reducing future risks associated with climate change.

The Climate Change Advisory Council's Annual Review 2020 identified that the most recent projections demonstrate that, under different assumptions, Ireland will not meet its emissions reduction targets, even with the additional policies and measures included in the National Development Plan. The projections also show that progress on reducing emissions is sensitive to the future path of fuel prices. A significant and sustained rate of emissions reduction of approximately -2.5% per year is required to meet objectives for 2050. However, it must be noted that additional measures within the recent Climate Action Plan are not included in the analysis to date.

Climate adaptation is a change in natural or human systems in response to the impacts of climate change. These changes moderate harm or exploit beneficial opportunities and can be in response to actual or expected impacts.

The National Adaptation Framework sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The National Adaptation Framework outlines a whole of government and society approach to climate adaptation. Under the Framework, a number of Government Departments will be required to prepare sectoral adaptation plans in relation to a priority area that they are responsible for.

The Leitrim County Council Climate Change Adaptation Strategy 2019-2024 seeks to:

- Ensure a proper comprehension of the key risks and vulnerabilities of climate change;
- Bring forward the implementation of climate resilient actions in a planned and proactive manner; and
- Ensure that climate adaptation considerations are mainstreamed into all plans and policies and integrated into all operations and functions of the local authority.

The EPA's (2020) *Air Quality in Ireland 2019* identifies that:

- Air quality in Ireland is generally good however there are localised issues;
- Nitrogen dioxide (NO<sub>2</sub>) from transport emissions is polluting urban areas; and
- Ireland was above World Health Organization air quality guideline value levels at 33 monitoring sites – mostly due to the burning of solid fuel within settlements across the country.

Problem pollutants identified by the EPA include particulate matter from burning of solid fuel and nitrogen dioxide from transport emissions in urban areas. Indications that Ireland will exceed EU limit values for nitrogen dioxide in the near future.

With regards to solutions, the report identifies that:

- To tackle the problem of particulate matter, clean ways of heating homes and improve energy efficiency of homes can be progressed; and
- To reduce the impact of nitrogen dioxide, transport options in the Government's Climate Action Plan can be implemented and transport choices can be considered by individuals.

In order to comply with European Directives relating to air quality, the EPA manages the National Ambient Air Quality Network and measures the levels of a number of atmospheric pollutants at locations across the country. The current <sup>13</sup> air quality within the Plan area is identified by the EPA as being *good*.

### 3.8 Material Assets

Other material assets, in addition to those referred to below, covered by the SEA include archaeological and architectural heritage (see Section 3.9) natural resources of economic value, such as water and air (see Sections 1.1 and 1.1).

#### Public Assets and Infrastructure

Public assets and infrastructure that have the potential to be impacted upon by the Plan, if unmitigated, include; settlements; resources such as public open spaces, parks and recreational areas; public buildings and services; transport and utility infrastructure (electricity, gas, telecommunications, water supply, wastewater infrastructure etc.); forestry; and natural resources that are covered under other topics such as water and soil.

#### Water Services

It is the expressed view of Irish Water that the county is well served by its water and wastewater treatment plants and, notwithstanding constraints associated with the Carrick-on-Shannon water treatment plant and the wastewater treatment plant at Carrigallen which are expected to be addressed over the lifetime of the Plan, it is envisaged that the water and wastewater treatment plants can generally accommodate the household or population levels stated in the Core Strategy of this Plan. In the case of Drumshanbo and Mohill wastewater treatment plants however, potential availability of capacity is dependent on any additional load not resulting in a significant breach of the combined approach as set out in Regulation 43 of the Waste Water Discharge (Authorisation) Regulations 2007

Spare treatment capacity is identified as being available in most of the County's settlements. It is the expressed view of Irish Water that capacity issues are not considered to exist in any wastewater treatment plant that would prohibit the realisation of the household or population levels provided for by the Plan. The highest levels of headroom are available at Carrick-on-Shannon WWTP, Drumsna WWTP and Kinlough WWTP.

The EPA's 2019 and 2020 Annual Environmental Reports (AERs) identify the following WWTPs as being non-compliant with Emission Limit Values set in the relevant Discharge Licences include:

- Drumshanbo WWTP;
- Manorhamilton WWTP;
- Mohill WWTP;
- Leitrim Village WWTP; and
- Ballinamore WWTP.

Leitrim County Council will work alongside and facilitate the delivery of Irish Water's Water Investment Plan to support and facilitate the delivery of new or improved wastewater treatment plants in the County.

Projects have recently been completed at Drumshanbo, Mohill and Manorhamilton WWTPs. A further upgrade of the Carrigallen WWTP is being progressed under Irish Water's Small Towns and Villages Growth Programme.

It is the expressed view of Irish Water that capacity issues are not considered to exist in any water treatment plant that would prohibit the realisation of the household or population levels provided for by the Plan. The public water supply in Leitrim is split into three Water Resource Zones: the South Leitrim Regional Water Supply Scheme, the North Leitrim Regional Water Supply Scheme and the

<sup>13</sup> 02/11/2021 (<http://www.epa.ie/air/quality/>)  
CAAS for Leitrim County Council

Kinlough/Tullaghan Water Supply Scheme. The EPA publishes their results in annual reports that are supported by Remedial Action Lists (RALs). The RAL identifies water supplies that are not in compliance with the Drinking Water Regulations. There are no County Leitrim water supplies identified on the most recent available RAL (Q3 of 2021).

### **Waste Management**

Waste management across the County is guided by the Connacht-Ulster Waste Management Plan 2015-2021.

### **Transport**

Transport infrastructure in the County has the potential to support reductions in energy demand from the transport sector, including through electrification of modes.

The County is well served by public transport and road links. The N4/N15/N16 national routes traverse the County. Irish Rail operate services to Carrick on Shannon and Dromod via the Dublin/Sligo rail line.

There are a number of public and private bus operators linking settlements within the County. In addition, Bus Éireann and private operators service the number of long-distance routes to and from the County daily.

County Leitrim shares the international land border with Northern Ireland and is seen as a 'Gateway' to the North, providing fundamental connections with other urban centres in these regions. Both regional and local roads provide vital links between the towns and villages to retail, service and employment centres throughout the County and to adjoining counties.

### **Existing Problems**

There are a number of challenges with respect to the provision of water services infrastructure, some of which are summarised above. The provisions of the new County Development Plan will contribute towards protection of the environment with regard to impacts arising from material assets.

## **3.9 Cultural Heritage**

### **Archaeological Heritage**

Archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts. The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped.

There are approximately 1,400 Recorded Monuments within the County, including examples of megalithic tombs, churches, castles, linear earthwork and ringforts. Sites of particular archaeological significance in the County include the Iron Age linear earthworks of the Black Pig's Dyke and Park's Castle on the shore of Lough Gill, constructed in the early 1600's. Clusters of archaeological heritage are identified within and surrounding settlements and in lowland rural areas. There are lower concentrations in the central upland areas.

### **Architectural Heritage**

Records of Protected Structures are legislated for under Section 12 and Section 51 of the Planning and Development Act 2000, as amended. Protected structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. Similar to the general spatial spread of archaeological heritage, clusters of architectural heritage are indicated within the County's settlements. The Leitrim County Development Plan 2015-2021 Record of Protected Structures (RPS) contains a total of 272 no. structures. No structure has been added or deleted since the last Plan was adopted in February 2015.

County Leitrim has an important industrial heritage with many important historic structures, including examples of: cottages, houses, churches, castles, shops, railway stations, bridges, lodges, artisan dwellings, mills and canals. Notable protected structures in County Leitrim include Lough Rynn House, Roosky Bridge, Rossinver Church of Ireland Church and Swiss Cottage in Clooncahir. Similar to the general spatial spread of archaeological heritage, clusters of architectural heritage are indicated within the County's settlements and in certain rural areas.

In addition to Protected Structures, the Planning and Development Act, 2000 provides the legislative basis for the protection of Architectural Conservation Areas (ACAs). The ACA designation requires that planning permission must be obtained before significant works can be carried out to the exterior of a structure in the ACA that might alter the character of the structure or the ACA. There are 8 ACAs designated within the County including within Carrick on Shannon.

### Existing Problems

The context of archaeological and architectural heritage has changed over time within County Leitrim, however no existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

## 3.10 Landscape

County Leitrim is characterised by a variety of predominantly rural landscape types. The northern half of the County comprises of mountains, expansive lakes and deep glacial valleys, while the southern part of the County is characterised by drumlins interspersed with small lakes and rolling hills. The River Shannon with its associated lake systems forms the County's southwestern boundary with County Roscommon whilst Donegal Bay demarcates the northern extremity of the County. High Value Landscapes within County Leitrim include Areas of Outstanding Natural Beauty and Areas of High Visual Amenity. These areas are the most visually sensitive to development.

Landscape Character Assessment (LCA) is a process which describes, maps and classifies landscapes. To inform the preparation of the Development Plan, 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, documenting any changes and including these changes in an updated Landscape Character Assessment for County Leitrim.

The new Landscape Character Assessment forms an Appendix to the Plan. It provides guidance for a detailed understanding of the landscapes of the County. The assessment classifies 17 different Landscape Character Types across the County and defines 14 distinct Landscape Character Areas. The Landscape Character Assessment also includes proposed Areas of Outstanding Natural Beauty and Areas of High Visual Amenity and Protected Views and Prospects.

## 3.11 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives that have been transposed into Irish law and that are required to be implemented. The SEOs are set out under a range of topics and are used as standards against which the provisions of the Plan and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

**Table 3.1 Strategic Environmental Objectives**

<b>Environmental Component</b>	<b>Strategic Environmental Objectives</b>
<b>Biodiversity, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species</li> <li>• Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function</li> <li>• Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species</li> <li>• Enhance biodiversity in line with the National Biodiversity Strategy and its targets</li> <li>• To protect, maintain and conserve the County's natural capital</li> </ul>
<b>Population and Human Health</b>	<ul style="list-style-type: none"> <li>• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management</li> <li>• Ensure that existing population and planned growth is matched with the required public infrastructure and the required services</li> </ul>

Environmental Component	Strategic Environmental Objectives
	<ul style="list-style-type: none"> <li>• Safeguard the County's citizens from environment-related pressures and risks to health and well-being</li> </ul>
<b>Soil (and Land)</b>	<ul style="list-style-type: none"> <li>• Protect soils against pollution, and prevent degradation of the soil resource</li> <li>• Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County</li> <li>• Safeguard areas of prime agricultural land and designated geological sites</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive</li> <li>• Ensure water resources are sustainably managed to deliver proposed regional and County growth targets in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments</li> <li>• Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, including coastal areas</li> <li>• Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals</li> </ul>
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County</li> <li>• Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, solar, hydro, biomass, energy from waste and traditional fossil fuels</li> <li>• Promote the circular economy, reduce waste, and increase energy efficiencies</li> <li>• Ensure there is adequate sewerage and drainage infrastructure in place to support new development</li> <li>• Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes</li> <li>• Encourage the transition to a zero-carbon economy by facilitating the development of a grid infrastructure to support renewables and international connectivity. Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart- buildings, cities and grids</li> </ul>
<b>Air</b>	<ul style="list-style-type: none"> <li>• To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture</li> <li>• Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency</li> <li>• Promote continuing improvement in air quality</li> <li>• Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution</li> <li>• Meet Air Quality Directive standards for the protection of human health – Air Quality Directive</li> <li>• Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels</li> </ul>
<b>Climatic Factors<sup>14</sup></b>	<ul style="list-style-type: none"> <li>• To minimise emissions of greenhouse gases</li> <li>• Integrate sustainable design solutions into the County's infrastructure (e.g. energy efficient buildings; green infrastructure)</li> <li>• Contribute towards the reduction of greenhouse gas emissions in line with national targets</li> <li>• Promote development resilient to the effects of climate change</li> <li>• Promote the use of renewable energy, energy efficient development and increased use of public transport</li> </ul>
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage</li> </ul>
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention</li> </ul>

<sup>14</sup> Please also refer to relevant legislation and requirements under Section 4.10, Section 8 and Appendix I of the SEA ER.  
CAAS for Leitrim County Council

## Section 4 Alternatives

### 4.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. Available reasonable alternatives for the County Development Plan are identified in this section which also summarises the environmental assessment provided in the main SEA Environmental Report.

### 4.2 Limitations in Available Alternatives

The Plan is required to be prepared by the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan.

The alternatives available for the Plan are limited by the provisions of higher-level planning objectives, including those of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region. These documents set out various requirements for the content of the Plan including on topics such as settlement typology, land use zoning and the sustainable development of rural areas<sup>15</sup>.

### 4.3 Type 1: Alternatives for an Ecosystem Services Approach to the Plan

Although many natural capital<sup>16</sup> and ecosystem<sup>17</sup> service issues have been taken into account over previous Plan periods, the importance of these in fulfilling environmental obligations has increasingly emerged. An Ecosystems Services Approach would provide a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

**Alternative Type 1 A: “A Plan follows an Ecosystems Services Approach to a greater degree”** would integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Principles that would be integrated throughout the Plan, in a coordinated and comprehensive manner, would include:

- Consideration of natural systems - by using knowledge of interactions in nature and how ecosystems function;
- Taking into account of the services that ecosystems provide - including those that underpin social and economic well-being, such as flood and climate regulation or recreation, culture and quality of life; and
- Involving people - those who benefit from the ecosystem services and those managing them need to be involved in decisions that affect them.

This would mean that there would be:

- An increased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital and ecosystem service issues, such as the management of air

<sup>15</sup> With respect to land use zoning, for example, the need to comply with the provisions of these higher level documents (including Appendix 3 to the National Planning Framework that provides a “Methodology for a Tiered Approach to Land Zoning”) combined with the relatively limited extent of growth means that there are currently no significant land use zoning alternatives available. Notwithstanding this, significant alternatives relating to land use zoning will be available for land use zoning when it comes to preparing the Local Area Plan for Carrick-on-Shannon. These alternatives will be considered during the preparation and assessment of that Plan.

<sup>16</sup> Renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals)

<sup>17</sup> Ecosystems are multifunctional communities of living organisms interacting with each other and their environment. Ecosystems provide a series of services for human well-being (ecosystem services) either directly or indirectly contributing towards human wellbeing

quality, noise pollution, light pollution, pollination, flood risk, water bodies and river basins and natural resources supporting energy production and recreation; and

- A decreased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

**Alternative Type 1 B: “A Plan that does not follow, or follows to a lesser degree, an Ecosystems Services Approach”** would not integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

As has been the case over previous plan periods, many natural capital and ecosystem service issues would be integrated into decision making at lower tiers of plan preparation and development management. However, this approach would be less coordinated and comprehensive than would be the case under an Ecosystems Services Approach.

This would mean that there would be:

- A decreased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital and ecosystem service issues; and
- An increased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

**Selected Alternative for the Plan: Type 1 A.**

## 4.4 Type 2: Alternatives for Population Allocations

Allocating higher or lower population allocations/future growth to different tiers of the settlement hierarchy provide reasonable alternatives for consideration.

- **Alternative Type 2 A** provides for the minimum requirement of growth for Carrick on Shannon of 30% as required under the RSES. Ballinamore and Manorhamilton are provided with 8% of the total population allocation each. Tier 4 Villages are provided with 7% of the total population allocation, Tier 5 Graigs are provided with 5% and Rural Housing is provided with 12%.
- **Alternative Type 2 B** provides more than the minimum requirement of growth for Carrick on Shannon as required under the RSES; 40% of the total population allocation under this Alternative. Ballinamore and Manorhamilton are provided with 8% of the total population allocation each. Tier 4 Villages are provided with 4% of the total population allocation, Tier 5 Graigs are provided with 3% and Rural Housing is provided with 7%.
- **Alternative Type 2 C** provides more than the minimum requirement of growth for Carrick on Shannon as required under the RSES; 35% of the total population allocation under this Alternative. Ballinamore and Manorhamilton are provided with 5.5% of the total population allocation each. Tier 4 Villages are provided with 7% of the total population allocation, Tier 5 Graigs are provided with 5% and Rural Housing is provided with 12%.

In terms of allocating populations, and associated growth, across the County, concentrating allocations into the larger settlements (especially Carrick-on-Shannon but also Manorhamilton and, to a lesser extent, Ballinamore) would help to ensure a more sustainable type of growth, where there are greater opportunities to consolidate development within the existing urban footprint of settlements, through infill and brownfield development. These larger settlements generally have a number of positive attributes such as a greater range of services, transport links, stronger employment bases, and greater capacities to facilitate population and economic growth. By concentrating allocations into these settlements, lower levels of commuting would result, benefiting efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets. Development within these centres would generally be better serviced (including with transport and water services) and there would be a reduced need for greenfield development (and associated



adverse environmental effects) in less well-serviced, less-well connected and more sensitive locations in the County.

Directing development towards smaller settlements, including Rural Settlements, can also promote compact growth and provide viable alternatives to rural housing.

The more dispersed the allocation of population, the greater the difficulty in delivering key infrastructure and placemaking projects. Development is more likely to occur on greenfield lands as there are less infill and brownfield sites available in Rural Settlements and the Other Rural Areas. Services and public transport are more limited and there would generally be a greater dependence on commuting for employment and accessing services. Higher levels of commuting would conflict with efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets. Higher levels of greenfield development (and associated adverse environmental effects) would manifest in less well-serviced, less-well connected and more sensitive locations in the County. This type of development would result in an elevated potential for adverse environmental impacts, including effects on water, drinking water, human health, ecology and landscape designations.

Alternative Type 2 A for Population Allocations would:

- Reinforce the critical mass of Carrick on Shannon which is the smallest county town in the country and the smallest of the Key Towns in the Region – to a lesser extent under this alternative than under Alternatives 2B or 2C;
- Help to ensure the return from investment in public infrastructure – to a lesser extent than Alternatives 2B and 2C;
- Provide an adequate allocation to Ballinamore and Manorhamilton, allowing for their sustainable development; and
- Provide a significant allocation for Rural Settlements and Other Rural Areas. This allocation would need to be accompanied by carefully prepared rural housing management and environmental protection/management policies.

Alternative Type 2 B for Population Allocations would:

- Reinforce the critical mass of Carrick on Shannon which is the smallest county town in the country and the smallest of the Key Towns in the Region – to the greatest extent of all three alternatives;
- Maximise the return from investment in public infrastructure – to the greatest extent of all three alternatives;
- Provide an adequate allocation to Ballinamore and Manorhamilton, allowing for their sustainable development; and
- Reduce the allocation for Rural Settlements and minimise the number of one-off houses Other Rural Areas, protecting the environment in rural areas to the greatest degree of all three alternatives. However, the reduced allocation, in particular for Rural Settlements, would have to be weighed against the socio-economic and societal impacts arising that are not fully within the scope of this assessment.

Alternative Type 2 C for Population Allocations would:

- Reinforce the critical mass of Carrick on Shannon which is the smallest county town in the country and the smallest of the Key Towns in the Region – to a lesser extent than Alternative 2B but to a greater extent than Alternative 2A;
- Help to ensure the return from investment in public infrastructure – to a lesser extent than Alternative 2B but to a greater extent than Alternative 2A;
- Not provide an adequate allocation Manorhamilton, as the town provides significant employment for its rural catchment to a greater extent presently than Carrick on Shannon. Ballinamore does not provide such an employment base presently; and
- Provide a significant allocation for Rural Settlements and Other Rural Areas. This allocation would need to be accompanied by carefully prepared rural housing management and environmental protection/management policies.

**Selected Alternative for the Plan: aligns closest to Type 2 A.**

## 4.5 Type 3: Alternatives for Settlement Role or Specialisms

- **Alternative Type 3 A** (A Plan that provides additional focus to the particular roles/specialisations for the larger towns<sup>18</sup> in the County) would support the County's settlements in attracting new development by focusing on the strengths and opportunities that are relevant to each settlement. Such development would contribute towards the success of the County's larger towns by: facilitating sustainable, compact growth; facilitating inward investment; and allowing them to become more desirable places to live and work in.

Compact, sustainable development within the County's larger towns would help to:

- Avoid potential adverse environmental effects on unzoned lands that are more environmentally sensitive, less well-serviced and less well-connected;
- Maximise benefits from infrastructural investment;;
- Contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health); and
- Deliver population growth targets and housing choice in line with the Core Strategy.

The expected development outcome would require a targeted economic marketing strategy to be prepared and pursued which identifies the sectors which the County seeks to develop for each urban centre. The success of such a strategy would also seek to provide additional employment opportunities in Ballinamore, Dromahair and Kinlough, again with a reduced carbon footprint associated with transport to and from work if more employment was provided locally. The reduction in the extent of commuting out of the County is an objective of the Plan but also to increase the level of employment within the County as a regional strength.

- **Alternative Type 3 B** (A Plan that does not provide additional focus to the particular roles/specialisations for the larger towns in the County) would be less likely to: facilitate sustainable, compact growth; facilitate inward investment into the County's larger towns; and allow County's larger towns to become more desirable places to live and work in.

**Selected Alternative for the Plan: Type 3 A.**

## 4.6 Type 4: Serviced Sites within Rural Settlements

- **Alternative Type 4 A:** Provide focus to and targeted policies/objectives for Rural Settlements to act as a viable alternative to one-off housing in the open countryside.

Serviced sites would be served by infrastructure (including water services infrastructure) and more likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape. Development would be required to be subject to siting, design, protection of residential amenities and normal development management criteria, subject to the satisfactory provision of infrastructure and services and in keeping with the character of the settlement.

- **Alternative Type 4 B:** Rural Settlements are included but there is no focus or no targeted provisions for these locations to act as a viable alternative to one-off housing in the open countryside.

Alternative B would be less likely to provide a viable alternative to one-off housing in the open countryside. Development within the open countryside would be less likely to be served by infrastructure (including water services infrastructure) and less likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape.

<sup>18</sup> Comprising: Tier 1 Key Town - Carrick on Shannon; Tier 2A Sub Regional Growth Centres - Manorhamilton & Ballinamore; and Tier 2B Support Towns - Dromahair, Drumshanbo, Mohill & Kinlough.

Alternative B would be the least sustainable of these two alternatives and would be most harmful to the environment.

**Selected Alternative for the Plan: Type 4 A.**

## 4.7 Type 5: Alternatives for Renewable Energy

- **Alternative Type 5 A**, a less favourable approach to wind energy development, would have the potential to:
  - Undermine and negate practical measures to reduce greenhouse gas emissions in compliance with high-level climate action policy (this approach may be contrary to such policy); and
  - Restrict the potential for wind energy development in the County, to the extent that the Plan may be contrary to national energy policy that supports reductions in the reliance on fossil fuels and the development of renewable energy resources, including wind energy infrastructure.

However, the need to mitigate potential construction and operational adverse environmental impacts arising from wind energy development would be reduced. This mitigation includes that relating to potential visual effects in sensitive landscapes, potential effects on biodiversity, potential effects on soil stability and potential effects on human health arising from noise and shadow flicker.

- **Alternative Type 5 B**, a more favourable approach to wind energy development, would have the potential to:
  - Contribute towards the reduction of greenhouse gas emissions in compliance with high-level climate action policy; and
  - Allow for appropriate wind energy development in the County, in line with national energy policy that supports reductions in the reliance on fossil fuels and the development of renewable energy resources, including wind energy infrastructure.

However, the need to mitigate potential construction and operational adverse environmental impacts arising from wind energy development would be increased. This mitigation includes that relating to potential visual effects in sensitive landscapes, potential effects on biodiversity, potential effects on soil stability and potential effects on human health arising from noise and shadow flicker.

**Selected Alternative for the Plan: Type 5 B, a more favourable approach to wind energy development. This alternative complies with Government policy on climate action and energy.**

## 4.8 Reasons for Choosing the Selected Alternatives in light of Other Reasonable Alternatives Considered

Selected alternatives for the Plan from each of the tiers of alternatives that emerged from the planning/SEA process are indicated above.

These alternatives have been incorporated into the Plan having regard to both:

1. The environmental effects which are identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects that also were considered by the Members.

## Section 5 Summary of Effects arising from Plan

Table 5.1 summarises the overall environmental effects arising from Plan provisions. The effects encompass all in-combination/cumulative effects arising from implementation of the Plan. The potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Plan are detailed as are residual effects, taking into account mitigation through both provisions integrated into the Plan – see summary at Section 6.

The scope of the assessment (including description of baseline, the relationship to other plans and programmes and the evaluation of effects) has considered the environment of both Ireland and Northern Ireland. Taking into account, *inter alia*, the detailed mitigation which has been integrated into the Plan, it was determined that: significant residual adverse environmental effects will not occur in Ireland; and significant environmental effects will not occur in Northern Ireland.

Stage 2 Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) have been undertaken alongside the preparation of the Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The AA assesses the effects of the Plan on European Sites designated for certain habitats and species. The conclusion of the AA is that the Plan will not affect the integrity of the Natura 2000 network<sup>19</sup>. SFRA is required by 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014. Recommendations from the SFRA have been integrated into the Plan. Various policies and objectives have been integrated into the Plan through the SEA, SFRA and AA processes. The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA.

---

<sup>19</sup> Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: (a) no alternative solution available; (b) imperative reasons of overriding public interest for the plan/programme/project to proceed; and (c) adequate compensatory measures in place.

**Table 5.1 Overall Evaluation (including transboundary) – Effects arising from the Plan**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework		
	Positive/Neutral Effects, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated	Likely Residual Adverse Non-Significant Effects, following mitigation
<b>Biodiversity and Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• Contribution towards protection of ecology (including designated sites, ecological connectivity, habitats) by facilitating development of lands (including those within and adjacent to the County's settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-served lands elsewhere.</li> <li>• Contribution towards the maintenance of existing green infrastructure and associated ecosystem services, listed species, ecological connectivity and non-designated habitats.</li> <li>• Contribution towards protection and/or maintenance of biodiversity and flora and fauna by contributing towards the protection of natural capital including the environmental vectors of air, water and soil. Biodiversity and flora and fauna includes biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species (including birds and bats), listed/protected species, ecological connectivity and non-designated habitats (including terrestrial and aquatic habitats), and disturbance to biodiversity and flora and fauna – including terrestrial and aquatic biodiversity and flora and fauna.</li> <li>• Sustains existing sustainable rural management practices – and the communities who support them – to ensure the continuation of long-established managed landscapes and the flora and fauna that they contain.</li> </ul>	<p>Arising from both construction and operation of development and associated infrastructure:</p> <ul style="list-style-type: none"> <li>• Loss of/damage to biodiversity in designated sites (including European Sites, Wildlife Sites and Areas of Special Scientific Interest) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna;</li> <li>• Habitat loss, fragmentation and deterioration, including patch size and edge effects; and</li> <li>• Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces.</li> <li>• Losses or damage to ecology (these would be in compliance with relevant legislation).</li> </ul>

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework		
	Positive/Neutral Effects, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated	Likely Residual Adverse Non-Significant Effects, following mitigation
<b>Population and Human Health</b>	<ul style="list-style-type: none"> <li>• Promotion of economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management.</li> <li>• Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the County's settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-served lands elsewhere.</li> <li>• Contribution towards the protection of human health by facilitating development of lands (including those within and adjacent to the County's settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-served lands elsewhere.</li> <li>• Contributes towards protection of human health as a result of contributing towards the protection of natural capital including environmental vectors, including air and water.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential adverse effects arising from flood events.</li> <li>• Potential interactions if effects arising from environmental vectors.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential interactions with residual effects on environmental vectors – please refer to residual adverse effects under “Soil”, “Water” and “Air and Climatic Factors” below.</li> </ul>
<b>Soil</b>	<ul style="list-style-type: none"> <li>• Contribution towards the protection of soils (including those used for agriculture) and designated sites of geological heritage by facilitating development of lands (including those within and adjacent to the County's settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-served lands elsewhere.</li> <li>• Contribution towards the protection of the environment from contamination the highest standards of remediation, and where appropriate to consultations with the EPA and other relevant bodies, will be required to resolve any instances of environmental pollution created by contaminated land.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands.</li> <li>• Potential for riverbank and coastal erosion.</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.</li> <li>• Riverbank erosion will continue to occur naturally over time and is likely to be enhanced by climate change.</li> </ul>

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework		
	Positive/Neutral Effects, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated	Likely Residual Adverse Non-Significant Effects, following mitigation
<b>Water</b>	<ul style="list-style-type: none"> <li>• Contribution towards the protection of water by facilitating development of lands (including those within and adjacent to the County's settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-served lands elsewhere.</li> <li>• Contributions towards the protection of water resources including the status of surface and groundwaters and water-based designations.</li> <li>• Contribution towards flood risk management and appropriate drainage.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology.</li> <li>• Increase in flood risk and associated effects associated with flood events.</li> </ul>	<ul style="list-style-type: none"> <li>• Any increased loadings as a result of development to comply with the River Basin Management Plan.</li> <li>• Flood related risks remain due to uncertainty with regard to extreme weather events – however such risks will be mitigated by measures that have been integrated into the Plan.</li> </ul>
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>• Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the County's settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-served lands elsewhere.</li> <li>• Contribution towards compliance with national and regional water services and waste management policies.</li> <li>• Contribution towards increase in renewable energy use by facilitating renewable energy and electricity transmission infrastructure developments.</li> <li>• Contribution towards limits in increases in energy demand from the transport sector by facilitating sustainable compact growth.</li> <li>• Contribution towards reductions in average energy consumption per capita including promoting sustainable compact growth, sustainable mobility, sustainable design and energy efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts).</li> <li>• Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts).</li> <li>• Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts).</li> <li>• Increases in waste levels.</li> <li>• Potential impacts upon public assets and infrastructure.</li> <li>• Interactions between agriculture and soil, water, biodiversity and human health - including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter.</li> <li>• Risk of aggregate potential sterilisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Exceedance of capacity in critical infrastructure risks remain, including due to uncertainty with regard to climate – however, such risks will be mitigated by: measures, including those requiring the timely provision of critical infrastructure, and compliance with the Water Framework Directive and associated River Basin Management Plan.</li> <li>• Residual wastes to be disposed of in line with higher-level waste management policies.</li> <li>• Any impacts upon public assets and infrastructure to comply with statutory planning/consent-granting framework.</li> </ul>



Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework		
	Positive/Neutral Effects, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated	Likely Residual Adverse Non-Significant Effects, following mitigation
<b>Air and Climatic Factors</b>	<ul style="list-style-type: none"> <li>• Contribution towards climate mitigation and adaptation by facilitating compact development of lands (including those within and adjacent to the County's settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-served lands elsewhere.</li> <li>• In combination with other plans, programmes etc., contribution towards the objectives of the wide policy framework relating to climate mitigation and adaptation, and associated contribution towards maintaining and improving air quality and managing noise levels, including through measures relating to: <ul style="list-style-type: none"> <li>○ Sustainable compact growth;</li> <li>○ Sustainable mobility, including walking, cycling and public transport;</li> <li>○ Drainage, flood risk management and resilience;</li> <li>○ Sectors including agriculture, forestry, energy and buildings; and</li> <li>○ Sustainable design, energy efficiency and green infrastructure.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives.</li> <li>• Potential conflicts between transport emissions, including those from cars, and air quality.</li> <li>• Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors.</li> <li>• Potential conflicts with climate adaptation measures including those relating to flood risk management.</li> </ul>	<ul style="list-style-type: none"> <li>• An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable compact growth and sustainable mobility.</li> <li>• Interactions between noise emissions and sensitive receptors. Various provisions have been integrated into the Plan to ensure that noise levels at sensitive receptors will be minimised.</li> </ul>

Environmental Component	Environmental Effects, in combination with the wider planning framework		
	Effects include in-combination effects that are planned for through the wider planning framework		
	Positive/Neutral Effects, likely to occur		Positive/Neutral Effects, likely to occur
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Contributes towards protection of cultural heritage elsewhere in the County by facilitating development within existing settlements.</li> <li>• Contributes towards protection of cultural heritage within existing settlements by facilitating brownfield development and regeneration.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential effects on protected and unknown archaeology<sup>20</sup> and protected architecture<sup>21</sup> arising from construction and operation activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential effects on known architectural and archaeological heritage and unknown archaeology however, these will occur in compliance with legislation.</li> </ul>
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• Contributes towards protection of wider landscape and landscape designations by facilitating development within existing settlements.</li> </ul>	<ul style="list-style-type: none"> <li>• Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.</li> </ul>	<ul style="list-style-type: none"> <li>• Landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments that will occur in compliance with the Plan's landscape protection measures.</li> </ul>

<sup>20</sup> Archaeological heritage encompasses designated and unknown archaeological heritage including entries to the Record of Monuments and Places, underwater archaeology, entries to the Northern Ireland Sites and Monuments Record and Northern Ireland Areas of Significant Archaeological Interest and Archaeological Potential. Also encompassed are intervisibility and interrelationships between archaeological heritage within the wider landscape, including cross-border intervisibility and interrelationships.

<sup>21</sup> Architectural heritage encompasses that which is designated or included within the National Inventory of Architectural Heritage (NIAH), NIAH Historic Gardens and Designed Landscapes, Records of Protected Structures and Northern Ireland's Listed Buildings and Northern Ireland's Historic Parks, Gardens and Demesnes. Also encompassed are intervisibility and interrelationships between architectural heritage within the wider landscape, including cross-border intervisibility and interrelationships.

## Section 6 Mitigation and Monitoring Measures

### 6.1 Mitigation

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan. Various environmental sensitivities and issues have been communicated to the Council through the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. By integrating all related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation was achieved through the:

- Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development<sup>22</sup>;
- Considering alternatives for the Plan<sup>23</sup>;
- Integration of environmental considerations into zoning provisions of the Plan<sup>24</sup>; and
- Integration of individual SEA, AA and SFRA provisions into the text of the Plan.

### 6.2 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified at Table 3.1 and used in the evaluation. Monitoring indicators, targets, sources and remedial action is provided at Table 6.1 overleaf.

---

<sup>22</sup> Far in advance of the submission of the pre-Draft Plan to the Elected Members for approval, the placing of the Draft Plan on public display and adoption of the Plan, Leitrim County Council undertook various works in order to inform the preparation of the Plan.

The findings of this strategic work have been integrated into the Plan and will contribute towards both environmental protection and management and sustainable development within the County.

Strategic work undertaken by the Council includes background work in relation to Plan Strategies and other provisions for a variety of sectors, including:

- Housing;
- Economic Development;
- Tourism;
- Urban Settlements;
- Sustainable Communities;
- Transport;
- Infrastructure and Energy;
- Rural Development;
- Heritage; and
- Climate Action and Renewable Energy.

<sup>23</sup> Although strategic alternatives in relation to the content of the Plan were significantly limited for the Plan (see Section 4), as part of the Plan preparation/SEA process, the Council considered a number of alternatives for the Plan. These alternatives were assessed by the SEA process and the findings of this assessment informed the selection of preferred alternatives, facilitating an informed choice with respect to the type of Plan that was prepared and placed on public display.

<sup>24</sup> Environmental considerations were integrated into the Plan's zoning through an interdisciplinary approach. Zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF and Northern and Western RSES. The detailed Plan preparation process undertaken by the Planning Department combined with specialist seeks to facilitate zoning that will help to avoid inappropriate development being permitted in areas of elevated sensitivity, such as in areas at risk of flooding or ecological sensitivity. Various provisions have been integrated into the Plan that provide for flood risk management and ecological protection and management at project level. Also considered were environmental sensitivities relating to ecology, cultural heritage, landscape and water, as well as the overlay mapping of environmental sensitivities.

**Table 6.1 Indicators, Targets, Sources and Remedial Action**

Environmental Component	Indicators	Targets	Sources	Remedial Action
<b>Biodiversity, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>Condition of European sites</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species</li> <li>Implement and review, as relevant, County Leitrim Local Biodiversity Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years)<sup>25</sup></li> <li>DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)<sup>26</sup></li> <li>Consultations with the NPWS<sup>27</sup></li> </ul>	<ul style="list-style-type: none"> <li>Where condition of European sites is found to be deteriorating this will be investigated with the Regional Assembly and the DHLGH to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance.</li> </ul>
	<ul style="list-style-type: none"> <li>Number of spatial plans that have included ecosystem services content, mapping and policy to protect ecosystem services when their relevant plans are either revised or drafted</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species</li> <li>Implement and review, as relevant, County Leitrim Local Biodiversity Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of local land use plans</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
	<ul style="list-style-type: none"> <li>SEAs and AAs as relevant for new Council policies, plans, programmes etc.</li> </ul>	<ul style="list-style-type: none"> <li>Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of preparation of local land use plans</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
	<ul style="list-style-type: none"> <li>Status of water quality in the County's water bodies</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>
	<ul style="list-style-type: none"> <li>Compliance of planning permissions with Plan</li> </ul>	<ul style="list-style-type: none"> <li>For planning permission to be only granted when applications</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>

<sup>25</sup> Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

<sup>26</sup> Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

<sup>27</sup> Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

Environmental Component	Indicators	Targets	Sources	Remedial Action
	measures providing for the protection of Biodiversity and flora and fauna – see Chapter 11 “Heritage”	demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 11 “Heritage”	environmental effects of grants of permission	
<b>Population and Human Health</b>	<ul style="list-style-type: none"> <li>Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 4 “Economic Development, including Retail”</li> </ul>	<ul style="list-style-type: none"> <li>For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided for by Chapter 4 “Economic Development, including Retail”</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of progress on implementing Plan objectives</li> <li>Consultations with DECC</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> <li>Consultations with DECC</li> </ul>
	<ul style="list-style-type: none"> <li>Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the Health Service Executive and EPA</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the Health Service Executive and EPA</li> </ul>
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Leitrim County Council’s Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
	<ul style="list-style-type: none"> <li>Number of spatial plans that include specific green infrastructure mapping</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include specific green infrastructure mapping</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of local land use plans</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<b>Soil (and Land)</b>	<ul style="list-style-type: none"> <li>Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets)</li> </ul>	<ul style="list-style-type: none"> <li>Maintain built surface cover nationally to below the EU average of 4% as per the NPF</li> <li>In accordance with National Policy Objectives 3c of the National Planning Framework, a minimum of 30% of the housing growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement</li> <li>To map brownfield and infill land</li> </ul>	<ul style="list-style-type: none"> <li>EPA Geoportal</li> <li>Compilation of greenfield and brownfield development for the DHLGH</li> <li>AA/Screening for AA for each application</li> </ul>	<ul style="list-style-type: none"> <li>Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF and the RSES, the Council will liaise with the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so.</li> </ul>

Environmental Component	Indicators	Targets	Sources	Remedial Action
		parcels across the County		
	<ul style="list-style-type: none"> <li>Instances where contaminated material generated from brownfield and infill must be disposed of</li> </ul>	<ul style="list-style-type: none"> <li>Dispose of contaminated material in compliance with EPA guidance and waste management requirements</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of grants of permission where contaminated material must be disposed of</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the EPA and Development Management</li> </ul>
	<ul style="list-style-type: none"> <li>Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission</li> </ul>	<ul style="list-style-type: none"> <li>Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD</li> </ul>	<ul style="list-style-type: none"> <li>Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status'</li> <li>Implementation of the objectives of the River Basin Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>EPA Monitoring Programme for WFD compliance<sup>28</sup></li> </ul>	<ul style="list-style-type: none"> <li>Where water bodies are failing to meet at least good status this will be investigated with the DHLGH Water Section, the EPA Catchment Unit, the Regional Assembly and, as relevant, Irish Water to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance.</li> <li>Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity.</li> </ul>
	<ul style="list-style-type: none"> <li>Number of incompatible developments permitted within flood risk areas</li> </ul>	<ul style="list-style-type: none"> <li>Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Where planning applications are being permitted on flood zones, the Council will ensure that such grants are in compliance with the Flood Risk Management Guidelines and include appropriate flood risk mitigation and management measures.</li> </ul>
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>Programmed delivery of Irish Water infrastructure for all key growth towns in line with Irish Water Investment</li> </ul>	<ul style="list-style-type: none"> <li>All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it</li> </ul>

<sup>28</sup> Including monitoring of water quality and nitrogen deposition due to bioenergy and agricultural projects where available.

Environmental Component	Indicators	Targets	Sources	Remedial Action
	<p>Plan and prioritisation programme to ensure sustainable growth can be accommodated</p> <ul style="list-style-type: none"> <li>Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan</li> </ul>	<p>lifetime of the Plan</p> <ul style="list-style-type: none"> <li>Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate that the outfall from the septic tank will not – in- combination with other septic tanks– contribute towards any surface or ground water body not meeting the objective of good status under the Water Framework Directive</li> <li>Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure</li> <li>See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the Irish Water</li> <li>DHLGH in conjunction with Local Authorities</li> </ul>	<p>is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity.</p>
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Leitrim County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
<b>Air</b>	<ul style="list-style-type: none"> <li>Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels</li> <li>NO<sub>x</sub>, SO<sub>x</sub>, PM10 and PM2.5 as part of Ambient Air Quality Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels</li> <li>Improvement in Air Quality trends, particularly in relation to transport related emissions of NO<sub>x</sub> and particulate matter</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Data from the National Travel Survey</li> <li>EPA Air Quality Monitoring</li> <li>Consultations with Department of Transport and DECC</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, Council will coordinate with the Regional Assembly, DHLGH, DECC and NTA to develop a tailored response. See also entry under Population and human health above</li> </ul>
<b>Climatic Factors<sup>29</sup></b>	<ul style="list-style-type: none"> <li>Implementation of Plan measures relating to climate reduction targets</li> </ul>	<ul style="list-style-type: none"> <li>For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets – including the legally binding targets</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>

<sup>29</sup> Please also refer to relevant legislation and requirements under Section 4.10, Section 8 and Appendix I of the main SEA Environmental Report.



Environmental Component	Indicators	Targets	Sources	Remedial Action
		of the Climate Action and Low Carbon Development Act 2015, as amended, for Ireland to reach a target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels).		
	<ul style="list-style-type: none"> <li>• A competitive, low-carbon, climate-resilient and environmentally sustainable economy</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of Leitrim County Council's Climate Change Adaptation Strategy 2019-2024</li> <li>• EPA Annual National Greenhouse Gas Emissions Inventory reporting</li> <li>• Climate Action Regional Office</li> <li>• Consultations with DECC</li> </ul>	<ul style="list-style-type: none"> <li>• Where targets are not achieved, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions.</li> </ul>
	<ul style="list-style-type: none"> <li>• Share of renewable energy in transport</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the Plan</li> </ul>		
	<ul style="list-style-type: none"> <li>• Carbon dioxide (CO<sub>2</sub>) emissions across the electricity generation, built environment and transport sectors</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute towards the target of reducing aggregate carbon dioxide (CO<sub>2</sub>) emissions from electricity generation and large industry by 43% by 2030, relative to 2005 levels</li> <li>• Contribute towards the target of reducing aggregate carbon dioxide (CO<sub>2</sub>) emissions from all other sectors, including agriculture, transport, buildings, and light industry, by 30% by 2030, relative to 2005 levels</li> </ul>		
	<ul style="list-style-type: none"> <li>• Energy consumption, the uptake of renewable options and solid fuels for residential heating</li> </ul>	<ul style="list-style-type: none"> <li>• To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating</li> </ul>		
	<ul style="list-style-type: none"> <li>• Proportion of journeys made by private fossil fuel-based car compared to 2016 levels</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based</li> </ul>		

Environmental Component	Indicators	Targets	Sources	Remedial Action
		car compared to 2016 levels	Change Adaptation Strategy 2019-2024	Midlands Climate Action Regional Office to establish reasons and develop solutions.
	<ul style="list-style-type: none"> <li>• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>• CSO data</li> <li>• Monitoring of Leitrim County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>• Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>• Where monitoring reveals visitor pressure is causing negative effects on key tourist features along these routes, the Council will work with Regional Assembly, Fáilte Ireland and other stakeholders to address the pressures through additional mitigation tailored to the plans.</li> </ul>
	<ul style="list-style-type: none"> <li>• Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation with DHLGH.</li> </ul>	
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>• Where monitoring reveals developments permitted which result in avoidable adverse visual impacts on the landscape, the Council will re-examine Plan provisions and the effectiveness of their implementation</li> </ul>