

# SEA ENVIRONMENTAL REPORT

## APPENDIX IV – NON-TECHNICAL SUMMARY

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FOR THE

### CAVAN COUNTY DEVELOPMENT PLAN 2022-2028

INCORPORATING THE CAVAN TOWN  
LOCAL AREA PLAN 2022-2028

**for: Cavan County Council**

Courthouse  
Farnham  
Cavan Town



Comhairle Contae an Chabháin  
Cavan County Council

**by: CAAS Ltd.**

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**JULY 2022**

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# Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report for the Cavan County Development Plan 2022-2028, incorporating the Cavan Town Local Area Plan 2022-2028. 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

The SEA has been carried out in order to comply with the provisions of the European SEA Directive and in order to enable sustainable development and environmental protection and management. 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. Compact development can be accompanied by placemaking initiatives to enable the County's towns and villages to become more desirable places to live – so that they maintain and improve services to existing and future communities.

SEA enables requirements relating to environmental protection and management to be integrated into the Plan so that compatible sustainable development in the County's sensitive areas is also facilitated.

SEA provides greater 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 Cavan 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:

- Lakes throughout the County, including the Lough Oughter and Associated Loughs SAC around Cavan Town – on account of ecological and landscape designations, water status and flood risk;
- Upland areas, such as the Cuilcagh - Anierin Uplands in the north west of the County – on account of landscape designations, landslide susceptibility, ecological designations and groundwater vulnerability; and
- 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; 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.

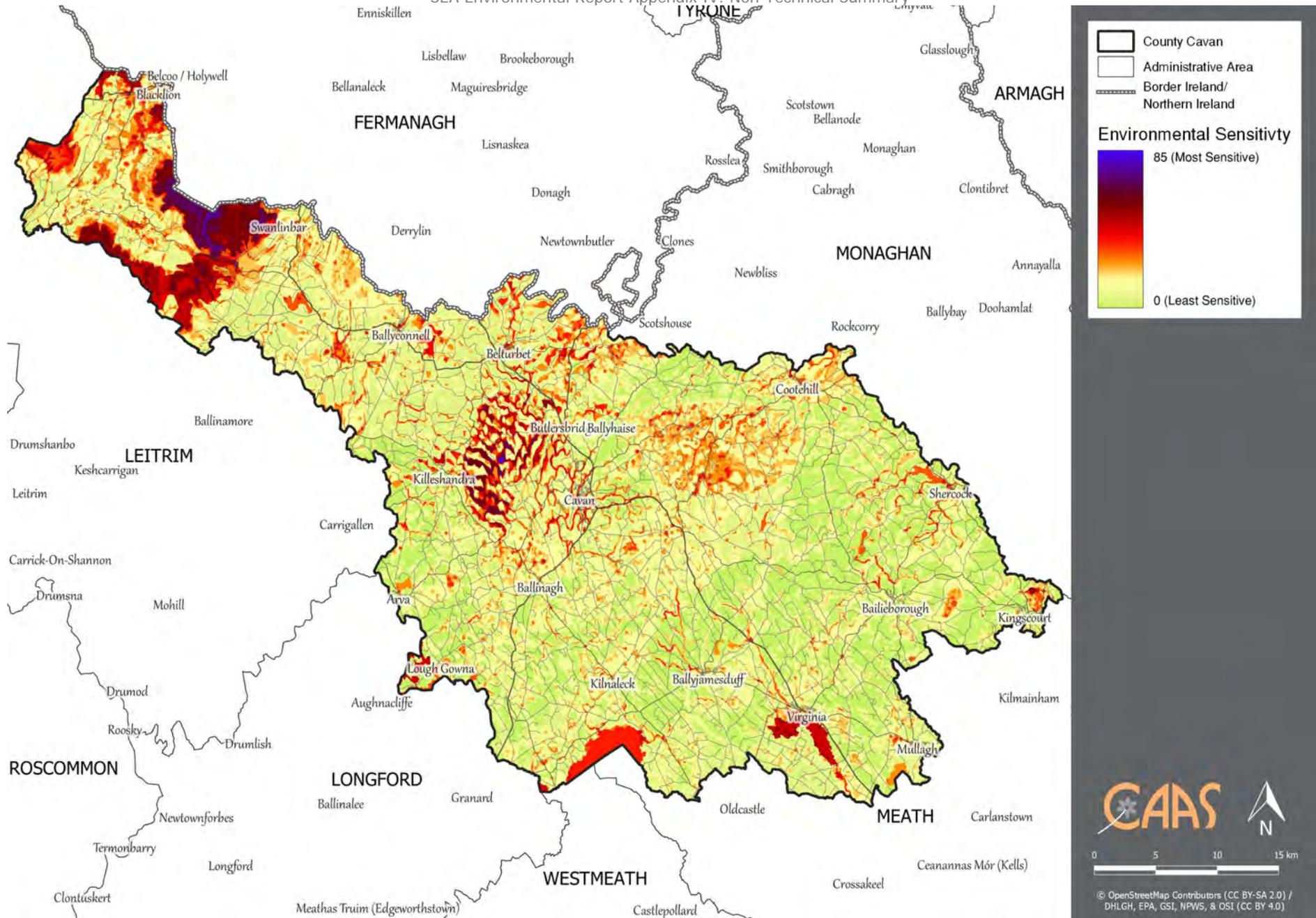
### **Difficulties Encountered during the SEA process**

No significant difficulties have been encountered during the undertaking of the assessment. 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 CAAS for Cavan County Council**

## Section 2 The Plan

### 2.1 Introduction and Content

The Cavan County Development Plan is a land use plan and overall strategy for the proper planning and sustainable development of the functional area of County Cavan over the six-year period 2022-2028.

The Plan sets out the Council's proposed policies and objectives for the development of the County over the Plan period. The Plan comprises of the following documents:

- Volume 1 – Written Statement
- Volume 2- Book of Maps
- Volume 3- Appendices

Volume 1 is divided into an Introduction and 14 Chapters as follow:

- Chapter 1 - Core Strategy
- Chapter 2 - Settlement Strategy
- Chapter 3 - Housing
- Chapter 4 - Sustainable Communities
- Chapter 5 - Climate Change
- Chapter 6 - Economic
- Chapter 7 - Transportation and Infrastructure
- Chapter 8 - Environment, Water and Drainage
- Chapter 9 - Tourism
- Chapter 10 - Natural Heritage
- Chapter 11 - Built and Cultural Heritage
- Chapter 12 - Rural
- Chapter 13 - Development Management
- Chapter 14 - Land Use

The Settlement Strategy in the Plan incorporates the Cavan Town Local Area Plan 2022-2028 and includes land use zoning for various settlements.

### 2.2 Strategic Vision for County Cavan

It is the Mission in the Corporate Plan of Cavan County Council 2019-2024 to be:

*'A Council that leads and collaborates with all to drive and shape a better future for our County'*

along with a vision of:

*'A progressive, vibrant county which is smart, connected, innovative, inclusive and sustainable'.*

The Plan provides a positive vision for Cavan which will enable the county to continue to make Cavan a place where people can have a good quality of life; a better place to live, work and enjoy contribution to national economic growth by promoting sustainable development and facilitating stable economic growth thus delivering long term benefits for the citizens of the County.

### 2.3 Strategic Aims

The Strategic Aims which guide the advancement of the Development Plan are set out hereunder:

- I. To guide the future development of County Cavan in line with national and regional objectives set out in the NPF and RSES and other national guidelines and policies
- II. To promote and facilitate the development of the County in accordance with the provisions of the Core Strategy, including directing development in line with the settlement hierarchy and promoting development at an appropriate scale that is reflective of the terms of the Core Strategy Table and zoning maps.
- III. To apply the Settlement Hierarchy to determine the scale, rate and location of proposed developments and apply appropriate development management measures to ensure compliance with the Settlement Hierarchy including the population targets for the County.
- IV. To promote the delivery of at least 30% of all new homes that are targeted in settlements within their existing built-up footprints
- V. To promote the delivery at least 20% of all new housing in rural areas on brownfield sites.

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

Far in advance of both 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, Cavan 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; Sustainable Communities; Climate Action; Economic Development; Transportation; Infrastructure; Environment; Water and Drainage; Tourism; and Rural Development. 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.

## **2.5 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 (RSESs) and lower tier Development Plans and Local Area Plans. The RSES 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 RSES 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 2014 County Development Plan has contributed towards environmental protection within County Cavan. If the 2014 Plan was to expire and not be replaced by the 2022-2028 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 - and including: effects on Northern Ireland Priority Species and their habitats; and barriers to Northern Ireland Priority Species movement, including migratory fish species.
- 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 erosion.
- Aggregate potential sterilisation.
- 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.
- 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.
- Potential effects on protected and unknown archaeology<sup>1</sup> and protected architecture<sup>2</sup> arising from construction and operation activities.
- Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.

<sup>1</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>2</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.

### 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 Cavan include extensive network of wetlands comprising: lakes; ponds; rivers; streams; drumlins; peatlands; watercourses; reservoirs; floodplains; marshes; swamps; and wet woodlands. These habitats support a variety of species and ecosystems that contribute to the biodiversity of the County. 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>3</sup> (SACs) and Special Protection Areas<sup>4</sup> (SPAs). These are mapped on Figure 3.1. There are ten European sites (six SACs and four SPAs) designated within or partially within County Cavan. Other ecological designations occur within and adjacent to the County and these are detailed in the main SEA Environmental Report.

CORINE<sup>5</sup> land cover mapping shows that the most dominant land cover types within the Plan area are pastures and agricultural lands. Concentrations of peat bogs occur mainly in the north-west 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>3</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>4</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>5</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 Cavan was identified as being 76,176 persons, showing an increase in total population of 3.9 % (2,993 persons) since the previous Census. The population of County Cavan is projected to increase further, up to 85,900 persons by 2028<sup>6</sup>.

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.

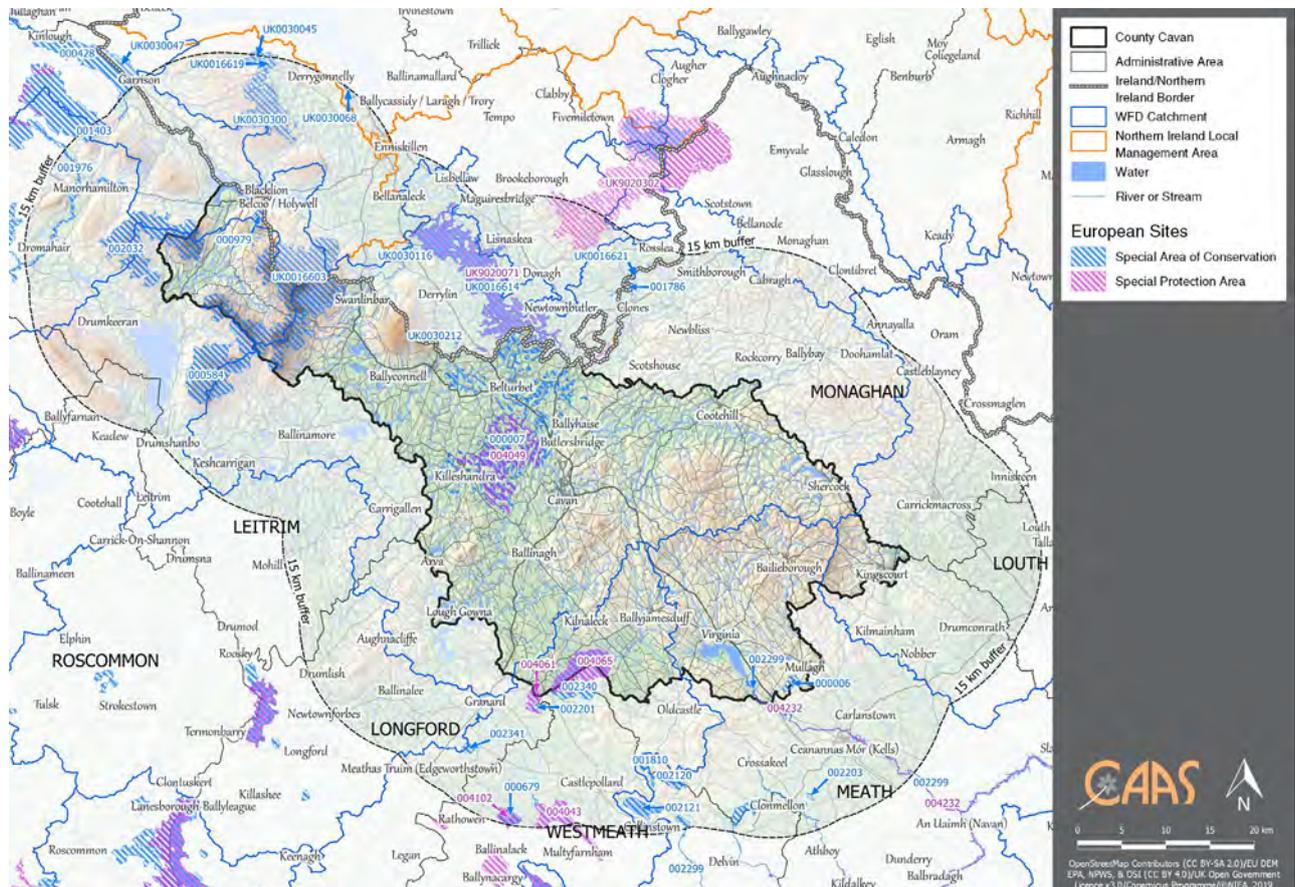


Figure 3.1 European sites within and within 15 km of the County

<sup>6</sup> Plan Core Strategy Chapter  
CAAS for Cavan County Council

### 3.5 Soil

Surface water gleys<sup>7</sup> and brown earths<sup>8</sup> are the two most dominant soil types across the County. Peat soils occur in the upland locations in the north-west and in other areas throughout the rest of the County. Many of these peat areas are also subject to ecological designations.

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 Cavan was completed in 2013 and identified 28 County Geological Sites.

### 3.6 Water

Most of the County is situated within the Erne catchment (an area drained by the River Erne and all streams entering tidal water between Aughrus Point and Kildoney Point). The County is also partially drained by the catchments: Upper Shannon; Newry/Fane/Glyde/Dee; and Boyne. The main waterbodies in the County include Lough Oughter and the rivers: Upper Boyne; Erne; Shannon; and Dromore/Annalee in the middle of the County.

The WFD status of river waterbodies in the County is classified as *moderate*, *good* and *high*, however, sections of rivers (including: Templeport Lake Stream; Rag; Pound; Madreegeel Lough Stream; Mullagh Lough Stream; Moynalty; Mountnugent; Laheen Stream; Inny; Finn; Erne; Dromore; Cullies; Blackwater; and Avaghon) are identified as *poor* due to unsatisfactory ecological/biological and/or physio-chemical status.

The WFD status of lake waterbodies in the County is classified as *moderate* and *good*, however, lake waterbodies (including: Lower Lough Macnean and Corglass) are identified as *bad* and lake waterbodies (including: Tacker; Skeagh Upper; Sillan; Ramo; Oughter South; Macnean Upper; Gowna North; Glasshouse; Erne Upper; Drumkeery; Derrycassan Mid; and Acurry) are identified as *poor* due to unsatisfactory ecological/biological and/or physio-chemical status.

The WFD surface water status (2013-2018) of rivers within and surrounding the County is shown on Figure 3.2.

The WFD status (2013-2018) of groundwater underlying the entire County is identified as being *good*.

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:

- *Extreme, high, moderate and low vulnerability*, in most of the County (including Cavan Town and Environs); and
- *Extreme (rock at or near surface or karst)*, in other locations, throughout the County (including Cavan Town and Environs).

Certain areas across the County are at risk of flooding from sources including groundwater, pluvial<sup>9</sup> and fluvial<sup>10</sup>. There are various historic and predictive indicators of flood risk in the County, such as those along the Rivers Dromore, Annalee, Cavan, Fohera and Cloone.

#### 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>7</sup> Wetland soils with slowly permeable horizons resulting in seasonal waterlogging.

<sup>8</sup> Well drained mineral soils, associated with high levels of natural fertility.

<sup>9</sup> Resulting from high intensity rainfall events where run-off volume exceeds capacity of surface water network.

<sup>10</sup> Watercourse capacity is exceeded or the channel is blocked and excess water spills from the channel onto adjacent floodplains.

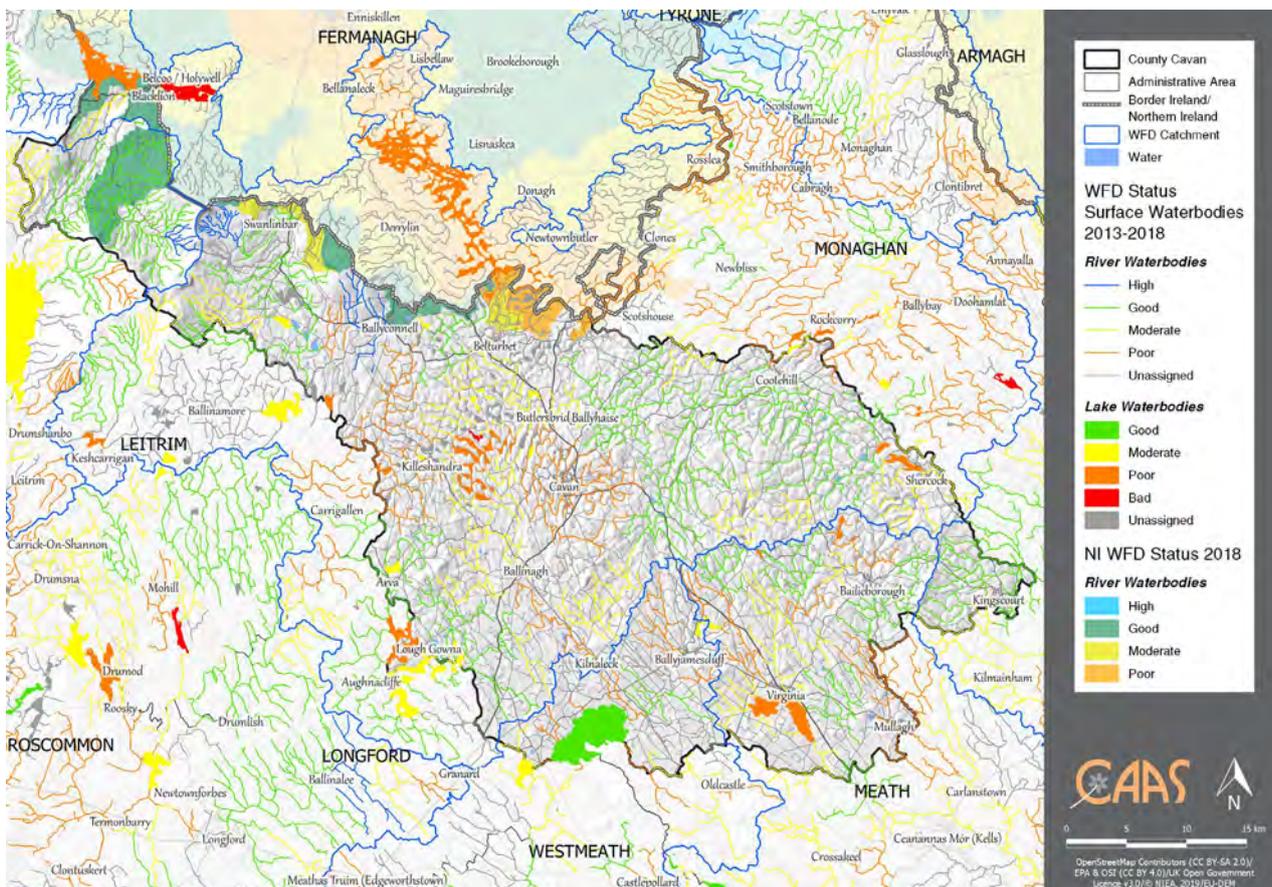


Figure 3.2 Surface Water Status (2013-2018)

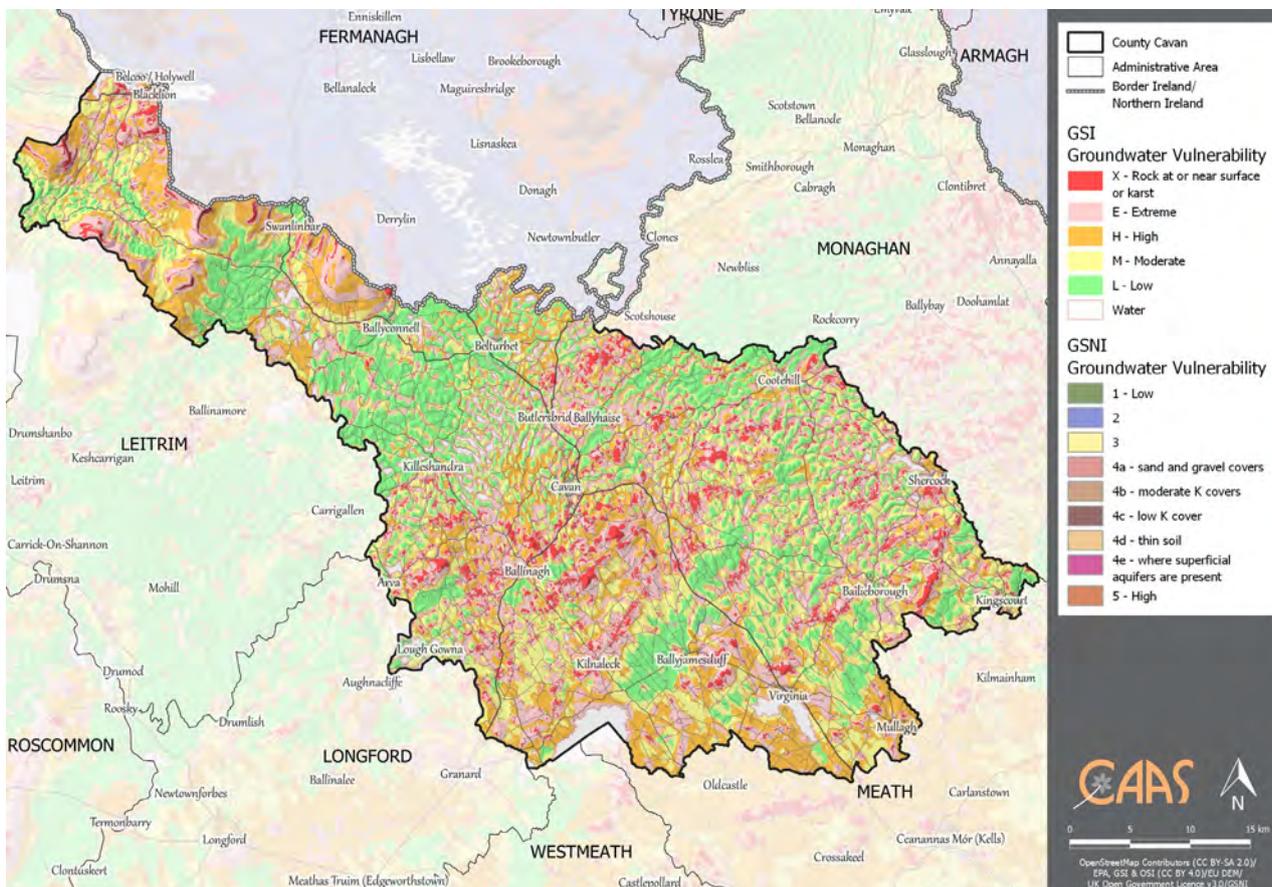


Figure 3.3 GSI Groundwater Vulnerability (2013-2018)

### 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).

The National Climate Action Plan 2021 is an all of Government plan to tackle climate change and bring about a step change in Ireland's climate ambition over the coming years. The plan sets out an ambitious course of action over the coming years to address the diverse and wide-ranging impacts climate disruption is having on Ireland's environment, society, economic and natural resources. The Climate Action Plan sets out clear 2030 targets for each sector with the ultimate objective of achieving a transition to a competitive, low-carbon, climate-resilient, and environmentally sustainable society and economy by 2050. The Action Plan deals with both mitigation and adaptation.

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 identifies 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 2018-2027 National Development Plan (superseded in 2021). 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 our objectives for 2050. It is noted that additional measures within the recent Climate Action Plan are not included.

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 Department of Communications, Climate Action and Environment, 2018), 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 Cavan 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.

With regard 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>11</sup> air quality within the Plan area is identified by the EPA as being *good*.

<sup>11</sup> 17/03/2021 (<http://www.epa.ie/air/quality/>)  
CAAS for Cavan County Council

### 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 3.6 and 3.7).

#### 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.

#### Waste Water

The County is served by 26 Wastewater Treatment Plants (WWTPs), out of which 16<sup>12</sup> are subject to Wastewater Discharge Licences and 10<sup>13</sup> are subject to Certificates of Authorisation, issued by The Environmental Protection Agency. Cavan Town and Environs is served by the Cavan Town WWTP, which has a designed capacity of 30,000 PE.

Irish Water has provided information on wastewater treatment capacity, constraints and projects planned within the County to improve the existing network, to assist the Council in the preparation of the new County Development Plan. This information indicates where there may be wastewater treatment capacity available to accommodate growth ("headroom") in areas serviced by a public wastewater treatment plant. Spare treatment capacity is identified as being available in all of these settlements except for Ballyjamesduff and Kingscourt. The highest levels of headroom are available at Cavan Town, Cootehill and Belturbet.

Cavan County Council will work alongside and facilitate the delivery of Irish Water's Water Capital Investment Plan. This programme includes the following WWTPs in County Cavan: Bailieborough; Ballyjamesduff; Kingscourt; Cootehill; and Virginia. Proposed upgrades include: increase the capacity of the Virginia WWTP and an increase of the capacity of the Ballyjamesduff WWTP. It is envisaged that similar preliminary design exercises will commence for Cootehill, Bailieborough and Kingscourt throughout 2021.

#### Water Supply

Public drinking water in County Cavan is supplied through of 16 Public Water Supply Schemes supplying drinking water to towns, villages, a number of small rural settlements and rural areas. These include eight Service Level Agreements with Irish Water, one water services contract and seven Group Water Schemes.<sup>14</sup> Cavan Town and Environs is supplied by the Cavan Regional Water Supply Scheme with water sourced from the Lough Acanon.

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 Drinking Water Regulations. The most recent available RAL (Q4 of 2020 published in January 2021) identifies four County Cavan drinking water supplies for which plans for improvement have been identified/implemented.

Irish Water has provided information on capacity, production and headroom for 11 Water Treatment Plants (WTP) in County Cavan. Spare headroom is identified as being available in all of these WTPs, except for the Grange WTP. The most headroom is available in Lough Gara WTP.

#### Waste Management

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

#### Transport

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

<sup>12</sup> Including: Cavan Town; Cootehill; Kingscourt; Belturbet; Bailieborough; Mullagh; Ballyconnell; Virginia; Ballyjamesduff; Shercock; Ballyhaise; Arvagh; Blacklion; Killeshandra; Kilnaleck; and Ballinagh.

<sup>13</sup> Buttersbridge; Bawnboy; Crosskeys; Dowra; Gowna; Mountnugent; Redhills; Swanlinbar; Stradone; and Kilcogy.

<sup>14</sup> Information taken from the Plan

## **Land**

The Plan seeks to assist with the reuse and regeneration of brownfield sites thereby contributing towards sustainable mobility and reducing the need to develop greenfield lands and associated potential adverse environmental effects. Brownfield lands are generally located within urban/suburban areas.

## **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 many sites of significant archaeological interest in County Cavan, including: Clough Oughter Castle (from the medieval period, situated on an island on the Lough Oughter); and Kilmore Church (from the 6<sup>th</sup> century).

There are hundreds of Recorded Monuments within the County including: round towers; high crosses; burial sites; ringforts; tower houses; fulacht fia; raths; court tombs; portal tombs; wedge tombs; cairns; earthworks; abbeys; and souterrains. Clusters of archaeological heritage are concentrated within and adjacent to the existing built-up footprint of the County's settlements and in the rural 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 in the Planning and Development Act 2000 as amended 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. There are hundreds of entries to the Record of Protected Structures within the County. Similar to the general spatial spread of archaeological heritage, clusters of architectural heritage are indicated within and adjacent to the existing built-up footprint of the County's settlements and in rural areas.

There are many traditional buildings in the County with architectural heritage value including industrial structures such as mills, forges, roads and railway bridges, vernacular buildings such as thatched cottages, farmhouses and old school houses, country estates and the country houses associated with these estates, such as Ballyhaise House, Bellamont Forest and Cabra Castle.

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 16 ACAs designated within the County including with Cavan Town.

## **Existing Problems**

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

### 3.10 Landscape

Cavan has a diverse landscape, characterised by highlands in the east of the County, Cuilcagh-Anierin uplands in the north-west of the County and drumlin and lakelands throughout.

County Cavan preliminary Landscape Character Assessment has identified the following five Landscape Character Areas:

- Cuilcagh-Anierin Uplands of West Cavan;
- The Lakelands;
- Lake Catchments of South Cavan;
- Drumlin Belt and Uplands of East Cavan; and
- Highlands of East Cavan.

Cavan Town and Environs is designated within the “Lakelands Landscape Character Area”.

County Cavan encompasses many sites and vantage points from which views over areas of great natural beauty, local landmarks, historic landscapes, adjoining Counties may be obtained. There are 17 Scenic Viewing Points and three Scenic Routes designated within County Cavan that offer attractive cross-sectional views and overall impressions of differing landscapes in the County.

#### Existing Environmental Problems

New developments have resulted in changes to the visual appearance of lands within the County however legislative objectives governing landscape and visual appearance were not identified as being conflicted with

### 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**

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
<b>Biodiversity, Flora and Fauna</b>	<b>BFF</b>	No net contribution to biodiversity losses or deterioration <sup>15</sup>	<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 Action Plan and its targets</li> <li>• To protect, maintain and conserve the County's natural capital</li> </ul>
<b>Population and Human Health</b>	<b>PHH</b>	Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	<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> <li>• Safeguard the County's citizens from environment-related pressures and risks to health and well-being</li> </ul>
<b>Soil (and Land)</b>	<b>S</b>	Ensure the long-term sustainable management of land	<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>

<sup>15</sup> Including with respect to effects on Northern Ireland Priority Species and their habitats barriers to Northern Ireland Priority Species movement, including migratory fish species.

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
<b>Water</b>	<b>W</b>	Protection, improvement and sustainable management of the water resource	<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</li> <li>• Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals</li> </ul>
<b>Material Assets</b>	<b>MA</b>	Sustainable and efficient use of natural resources	<ul style="list-style-type: none"> <li>• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County – this includes transport infrastructure</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 - this includes transport infrastructure</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>	<b>A</b>	Support clean air policies that reduce the impact of air pollution on the environment and public health	<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</b>	<b>C</b>	Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts	<ul style="list-style-type: none"> <li>• To minimise emissions of greenhouse gasses</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>	<b>CH</b>	Safeguard cultural heritage features and their settings through responsible design and positioning of development	Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
<b>Landscape</b>	<b>L</b>	Protect and enhance the landscape character	To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

## 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 provided under Tiers 1 to 5 detailed below.

### 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.

### 4.3 Assessment of Tier 1: Alternatives for Positioning under the Settlement Hierarchy

- **Tier 1 - Alternative A:** Virginia is identified as a Self-Sustaining Growth Town.
- **Tier 1 - Alternative B:** Virginia is identified as a Self-Sustaining Town.
- **Selected Alternative for the Plan: Alternative A.**

**Alternative A** would provide a greater allocation of population and economic growth to Virginia in the overall context of the County. This results in a more sustainable and lower allocation of growth in the smaller towns which have less services and in the rural countryside. This results in a more sustainable development of the County and is considered to be in the interests of proper planning.

Alternative A would result in lower levels of commuting, benefiting efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets the most. Development in Virginia would be better serviced 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, including the open countryside and smaller settlements.

**Alternative B** would provide a greater allocation of population and economic growth to smaller towns, villages and rural countryside outside of Virginia resulting in a less sustainable pattern of growth for the County, which would not be in the interests of the proper planning and sustainable development, as these smaller towns and rural areas would not have the same level of services and function for the allocation of population growth that the Plan would have allocated for them.

Alternative B would result in a greater expansion of the smaller towns and villages in the County. Services and public transport are more limited. Alternative B would result in higher levels of commuting, conflicting with efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets the most. Alternative B would provide for higher levels of greenfield development (and associated adverse environmental effects) in less well-serviced, less-well connected and more sensitive locations in the County, including the open countryside and smaller settlements. This type of development would result in a higher potential adverse environmental impact, including effects on water, drinking water, human health, ecology and landscape designations.

## 4.4 Assessment of Tier 2: Alternatives for Population Allocations

- **Tier 2 – Alternative A:** Concentrate future growth in the settlements in the upper tiers of the settlement hierarchy, in particular the Key Town of Cavan Town, Self-Sustaining Growth Town of Virginia and Self-Sustaining Towns of Ballyjamesduff, Bailieborough, Kingscourt and Cootehill with a more limited level of growth in the smaller settlements and open countryside.
- **Tier 2 – Alternative B:** Continued growth of Cavan Town, Ballyjamesduff, Bailieborough, Kingscourt, Virginia and Cootehill with dispersed pattern of growth across the smaller settlements and the open countryside.
- **Selected Alternative for the Plan: Alternative A.**

Under **Alternative A**, in accordance with NPF and RSES, a greater concentration of future growth is placed in the larger settlements of the County where sufficient capacity exists for a range of functions including housing, employment, services, retail and leisure opportunities. There is a more limited level of growth in the smaller settlements and the open countryside.

Alternative A would allow for more concentrated, compact growth and significantly reduce the proportion of rural one-off housing in the County. This alternative would also direct development towards smaller villages which would also promote compact growth and provide viable alternatives to rural housing.

The concentration of growth into the larger settlements would ensure more sustainable growth, where there are greater opportunities to consolidate development in the existing urban footprint through infill and brownfield development. These settlements have a number of positive attributes including a greater range of services, transport links, a stronger employment base, and a greater capacity to facilitate population and economic growth. By concentrating in the larger settlements in the County, Alternative A would result in lower levels of commuting, benefiting efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets. Development in these centres would 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-served, less-well connected and more sensitive locations in the County.

Under Alternative B, larger towns in the settlement hierarchy would not reach a sustainable population growth relative to the services and function that they provide. This alternative involves a more dispersed population approach, which has the potential to undermine the role of the larger settlements and make it more difficult to deliver key infrastructure and placemaking projects. It would not reduce the proportion of rural one-off housing in the County. This alternative would also direct development towards smaller villages which would also promote compact growth and provide viable alternatives to rural housing.

Development would be more likely to occur on greenfield lands as there are less infill and brownfield sites available in Rural Settlements and the Open Countryside. Services and public transport are more limited and there would be a greater dependence on commuting for employment and accessing services. Alternative B would result in higher levels of commuting, conflicting with efforts to improve sustainable mobility and meet greenhouse gas emission reduction targets. Alternative B would provide for higher levels of greenfield development (and associated adverse environmental effects) in less well-served, less-well connected and more sensitive locations in the County. This type of development would result in a higher adverse environmental impact, including effects on water, drinking water, human health, ecology and landscape designations.

## 4.5 Assessment of Tier 3: Alternatives for Rural Areas

### Rural Areas under Strong Urban Influence/Pressure

- **Tier 3 (i) Alternative A:** Designate Rural Areas under Strong Urban Influence and Stronger Rural Areas that require various criteria to be demonstrated in advance of planning permission being granted for a single dwelling for permanent occupation.
- **Tier 3 (i) Alternative B:** Do not designate Rural Areas under Strong Urban Influence/Stronger Rural Area and assess each planning application on its merits.
- **Selected Alternative for the Plan: Alternative A.**

**Alternative A** provides for a robust and transparent policy approach to manage rural housing.

Restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would positively impact upon the protection and management of the environment and sustainable development. The restrictions would help to both reduce levels of greenfield development in areas immediately surrounding existing centres and encourage brownfield development within existing centres.

Single dwellings in rural areas would be facilitated as appropriate and urban development would be directed towards established settlements. This alternative would help to prevent low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

**Alternative B** Provides a vague and unclear policy approach to rural housing and risks facilitating a significant increase in urban-generated one-off housing in the open countryside which will undermine the role of small towns and villages and have consequences for the environment.

Not restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would adversely impact upon the protection and management of the environment and sustainable development. The absence of restrictions would result in increased levels of greenfield development in areas immediately surrounding existing centres and less demand for brownfield development within existing centres.

Urban generated housing development would occur within rural areas outside of established settlements. This alternative would result in low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components including groundwater, surface water, drinking water and human health.

### Serviced and Unserviced Settlements

- **Tier 3 (ii) Alternative A:** Provide focus to and targeted provisions for encouraging residential development in serviced and unserviced settlements, as an alternative to rural one-off housing;
- **Tier 3 (ii) Alternative B:** Serviced and unserviced settlements are included but there is no focus or no targeted provisions for these locations to act as alternatives to one-off housing in the open countryside.
- **Selected Alternative for the Plan: Alternative A.**

**Alternative A** recognises the important role that smaller settlements play in sustaining rural communities and in providing a proactive approach to the sustainable development of rural areas. Providing focus to and targeted policies/objectives for serviced and unserviced settlements would help to provide a viable alternative to one-off housing in the open countryside. Development within these settlements would be more efficiently and more likely

to be served by existing or new infrastructure (including water services infrastructure and safe walking and cycling facilities) 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 B** has the potential to undermine the role that smaller settlements play in sustaining rural communities and providing a viable alternative to one off housing. Not providing a focus to and targeted policies/objectives for serviced and unserved settlements 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 safe walking and cycling facilities) 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.

## 4.6 Assessment of Tier 4: Alternatives for Densities

- **Tier 4 – Alternative A:** Application of a single standard density across the whole County in order to calculate the potential residential yield relating to land zoned for residential purposes for the Core Strategy.
- **Tier 4 – Alternative B:** Application of different densities at different locations, as appropriate; higher densities where sustainable transport mode opportunities are available and lower densities where constraints are presented by, for example, character or function of settlement.
- **Selected Alternative for the Plan: Alternative B.**

The application of a singular standard residential density across the County under **Alternative A** would have the potential to push new development towards more environmentally sensitive lands that are less well-served and less well-connected, resulting in unnecessary potentially significant adverse effects on all environmental components.

The application of a singular standard residential density could result in a potential misalignment between the supply of zoned land to meet the projected demand for new housing. This could result in a misalignment between new development and essential services provision with associated potential for adverse effects on environmental components.

Higher densities under **Alternative B** would be provided where sustainable transport mode opportunities are available and lower densities would be provided where constraints are presented by, for example, wastewater and water infrastructure constraints, cultural heritage designations or the local road network. This approach would contribute towards national and regional strategic outcomes including the efficient use of land, compact growth and the transition towards a low carbon and more climate resilient society.

Alternative B would help to ensure compact, sustainable development within and adjacent to the existing built-up footprint and would conflict with the protection and management of environmental components the least. Alignment between new development and essential services provision would be most likely under Alternative B.

## 4.7 Assessment of Tier 5: Alternatives for Land Use Zoning

### Countywide Residential

Alternative A: Reduction in the quantum of zoned land

By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment in settlements across the County. By consolidating the zoning and helping to avoid unnecessary sprawl of the County's settlements, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components including groundwater, surface water, drinking water and human health. Introduction of a new zoning to facilitate low density residential development as an alternative to one off rural housing would further benefit protection and management of the environment. Land topography is a physical constraint to development and limits the range of uses that can be provided for at certain locations within settlements across the County.

Alternative B: No change in the quantum of zoned land

By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment in settlements across the County. By facilitating the unnecessary sprawl of the County's settlements and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects including groundwater, surface water, drinking water and human health. Land topography is a physical constraint to development and limits the range of uses that can be provided for at certain locations within settlements across the County.

- **Selected Countywide Residential Alternative for the Plan: Alternative A.**

### Countywide Economic

Alternative A: Increase in the quantum of zoned land

By increasing in the quantum of zoned land for economic purposes in settlements throughout the County in order to fulfil an established planning need, to reduce the levels of commuting out of the County for employment and to provide an alternative for rural based economic activity into urban areas, **Alternative A** would:

- Increase the potential for adverse environmental effects to occur from economic development within existing settlements;
- Decrease the potential for adverse environmental effects to occur from economic development outside of existing settlements; and
- Reduce the levels of commuting out of the County – and associated emissions – for employment.

Alternative B: No increase in the quantum of zoned land

By not increasing in the quantum of zoned land for economic purposes in settlements throughout the County in order to fulfil an established planning need, to reduce the levels of

commuting out of the County for employment and to provide an alternative for rural based economic activity into urban areas, **Alternative B** would:

- Reduce the potential for adverse environmental effects to occur from economic development within existing settlements;
  - Increase the potential for adverse environmental effects to occur from economic development outside of existing settlements; and
  - Fail to reduce levels the levels of commuting out of the County for employment to the same extent as Alternative A.
- **Selected Countywide Economic Alternative for the Plan: Alternative A.**

## Cavan Town Residential

Alternative A: Reduction in the overall quantum of zoned land

By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment in Cavan Town. By consolidating the zoning and helping to avoid unnecessary sprawl of Cavan Town, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components including groundwater, surface water, drinking water and human health. Land topography is a physical constraint to development in Cavan Town and limits the range of uses that can be provided for at certain locations.

Alternative B: No change in the overall in the overall quantum of zoned land

By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment in Cavan Town. By facilitating the unnecessary sprawl of Cavan Town and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects including groundwater, surface water, drinking water and human health. Land topography is a physical constraint to development in Cavan Town and limits the range of uses that can be provided for at certain locations.

- **Selected Cavan Town Residential Alternative for the Plan: Alternative A.**

## Cavan Town Economic

Alternative A: Increase in the quantum of zoned

By increasing in the quantum of zoned land for economic purposes in Cavan Town in order to fulfil an established planning need, to reduce the levels of commuting out of the County for employment and to provide an alternative for rural based economic activity into Cavan Town, **Alternative A** would:

- Increase the potential for adverse environmental effects to occur from economic development within Cavan Town;
- Decrease the potential for adverse environmental effects to occur from economic development outside of Cavan Town; and

- Reduce the levels of commuting out of the County – and associated emissions – for employment.

Alternative B: No in the quantum of zoned land

By not increasing in the quantum of zoned land for economic purposes in Cavan Town in order to fulfil an established planning need, to reduce the levels of commuting out of the County for employment and to provide an alternative for rural based economic activity into Cavan Town, **Alternative B** would:

- Reduce the potential for adverse environmental effects to occur from economic development within Cavan Town;
  - Increase the potential for adverse environmental effects to occur from economic development outside of Cavan Town; and
  - Fail to reduce levels the levels of commuting out of the County for employment to the same extent as Alternative A.
- **Selected Cavan Town Economic Alternative for the Plan: Alternative A.**

## 4.8 Reasons for Selecting Chosen Alternatives

Selected alternatives for the Plan from each of the various 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.

## 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.

In addition to undertaking SEA alongside the preparation of the Plan, Stage 2 Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) have been undertaken.

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>16</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.

### 5.1 Instances whereby Environmental Considerations were not integrated into the Plan

The Plan, considered as a whole, contributes towards environmental protection and management and sustainable development and complies with various legislative requirements. This is identified throughout the SEA documentation.

Various Plan provisions that would contribute towards the sustainable development of the County would, at the same time, have the potential to conflict with the environment, were mitigation measures not taken into account. This is normal and mitigation measures have been integrated into the Plan to deal with these potential effects.

However, a number of alterations were adopted by the Elected Members as part of the Plan that are particularly internally inconsistent with the overall approach provided for by the Plan and were advised against by the Plan-preparation SEA process. Advice provided on the environmental consequences of these alterations included:

These alterations would not be consistent with established population targets and/or the proper planning and sustainable development of the County. As a result they would present additional, unnecessary and potentially significant adverse effects on various environmental components, including soil, water, biodiversity, air and climatic factors and material assets. Any land use zoning proposed is considered to be premature in the context of current population targets.

Potentially significant adverse unnecessary effects, would be likely to include:

- Effects on non-designated habitats and species
- Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces

<sup>16</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.

- Increased loadings on water bodies
- Conflict with efforts to maximise sustainable compact growth and sustainable mobility
- Occurrence of adverse visual impacts

Where such alterations are further from the centre of settlements, potentially significant unnecessary adverse effects would be likely to include:

- Difficulty in providing adequate and appropriate waste water treatment as a result of zoning outside of established built development envelopes of settlements
- Adverse impacts upon the economic viability of providing for public assets and infrastructure
- Adverse impacts upon carbon emission reduction targets in line with local, national and European environmental objectives
- Conflicts between transport emissions, including those from cars, and air quality
- Conflicts between increased frequency of noise emissions and protection of sensitive receptors
- Potential effects on human health as a result of potential interactions with environmental vectors

**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 including the NPF and associated NDP 2018, the Northern and Western RSES, adjacent Development Plans and other plans and programmes.		
	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-serviced lands elsewhere in the County and beyond.</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 - and including: effects on Northern Ireland Priority Species and their habitats; and barriers to Northern Ireland Priority Species movement, including migratory fish species.</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 including the NPF and associated NDP 2018, the Northern and Western RSES, adjacent Development Plans and other plans and programmes.		
	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-serviced lands elsewhere in the County and beyond.</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-serviced lands elsewhere in the County and beyond.</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-serviced lands elsewhere in the County and beyond.</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 erosion.</li> <li>• Aggregate potential sterilisation.</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>

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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 including the NPF and associated NDP 2018, the Northern and Western RSES, adjacent Development Plans and other plans and programmes.		
	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 in the County and beyond.</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 in the County and beyond.</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> </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>

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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 including the NPF and associated NDP 2018, the Northern and Western RSES, adjacent Development Plans and other plans and programmes.		
	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 in the County and beyond.</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>
<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>17</sup> and protected architecture<sup>18</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>17</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>18</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>19</sup>;
- Considering alternatives for the Plan<sup>20</sup>;
- Integration of environmental considerations into zoning provisions of the Plan<sup>21</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.

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<sup>19</sup> Far in advance of both 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, Cavan 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;
- Sustainable Communities;
- Climate Action;
- Economic Development;
- Transportation;
- Infrastructure;
- Environment;
- Water and Drainage;
- Tourism; and
- Rural Development.

<sup>20</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>21</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 taken into account 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 Cavan 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>22</sup></li> <li>DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)<sup>23</sup></li> <li>Consultations with the NPWS<sup>24</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 Cavan 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 measures providing for the protection of Biodiversity and flora and fauna – see Chapter 10 “Natural Heritage”</li> </ul>	<ul style="list-style-type: none"> <li>For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 10 “Natural Heritage”</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission<sup>25</sup></li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<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 6 “Economic”</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 6 “Economic”</li> <li>By 2020 all citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps (Also relevant to Material Assets)</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>

<sup>22</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. Including monitoring of wetland sites, wind energy projects, one off rural houses and walking and cycling routes (including artificial lighting and disturbance) where available.

<sup>23</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. Including monitoring of wetland sites, wind energy projects, one off rural houses and walking and cycling routes (including artificial lighting and disturbance) where available.

<sup>24</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. Including monitoring of wetland sites, wind energy projects, one off rural houses and walking and cycling routes (including artificial lighting and disturbance) where available.

<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. Including monitoring of wetland sites, wind energy projects, one off rural houses and walking and cycling routes (including artificial lighting and disturbance) where available.

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Environmental Component	Indicators	Targets	Sources	Remedial Action
	<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 Cavan 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 parcels across the County</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>
	<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>26</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 Plan and prioritisation programme to ensure sustainable growth can be accommodated</li> <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>	<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 lifetime of the Plan</li> <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</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission Consultations with the Irish Water</li> <li>DHLGH in conjunction with Local Authorities</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 is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity.</li> </ul>

<sup>26</sup> Including monitoring of water quality and nitrogen deposition due to bioenergy and agricultural projects where available

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Environmental Component	Indicators	Targets	Sources	Remedial Action
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<p>brownfield development of land under Soil and broadband under Population and Human Health</p> <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 Cavan 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 of 74%</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 Department of Environment, Climate and Communications</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</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</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>
	<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 Cavan County Council's Climate Change Adaptation Strategy 2019-2024</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>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>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 aggregate reduction in carbon dioxide (CO<sub>2</sub>) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors</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 car compared to 2016 levels</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Cavan County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where trends toward carbon reduction are not recorded, 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>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 Cavan 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 or development pressure is causing negative effects on designated archaeological or architectural heritage, the Council will work with the Regional Assembly, Fáilte Ireland and the National Monuments Service and other stakeholders, as relevant, to address pressures through additional mitigation.</li> </ul>

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Environmental Component	Indicators	Targets	Sources	Remedial Action
	<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>