



SLIGO
COUNTY COUNCIL
COMHAIRLE CHONTAE SHLIGIGH

STRATEGIC ENVIRONMENTAL ASSESSMENT

Environmental Report

For the County Sligo Climate Action Plan 2024 -2029

Prepared for Sligo County Council under SI 435 of 2004 as amended

November 2023

CONTENTS

1	Introduction.....	1
1.1	Background to County Sligo CAP	1
1.2	Scale, Nature and Location of the County Sligo CAP.....	2
1.3	Structure and Preparation of this Environmental Report	3
2	Methodology	5
2.1	Stages in the SEA process.....	5
3	Relationships to Plans	14
3.1	International and National	14
3.2	Regional and Local	14
3.3	Key implications and principles arising from the Plan, Policy and Programme Review.	15
4	Summary of current Environmental Baseline in County Sligo.	21
4.1	Introduction	21
4.2	Green and Blue Infrastructure and Ecosystem Services	21
4.3	Biodiversity, flora and fauna	24
4.4	Population and Human Health	30
4.5	Geology and Soils.....	33
4.6	Water Resources including flood risk.....	38
4.7	Air Quality:	42
4.8	Material Assets:.....	44
4.9	Cultural Heritage:	47
4.10	Landscape and Visual:.....	49
4.11	Decarbonising Zone.	50
4.12	Evolution of the plan area in the absence of the Climate Action Plan.....	52
4.13	Environmental Sensitivity Mapping and inter-relationships	52
5	Strategic Environmental Objectives	55
5.1	Introduction	55
6	Consideration of Alternatives	58
6.1	Introduction	58
6.2	Key environmental challenges at county scale.....	58
6.3	Preferred alternative and reason for selection	67
7	Assessment of Likely Significant Effects	68
7.1	Summary of significant effects	69
7.2	Cumulative effects.....	74

8	Mitigation Measures.....	77
8.1	Introduction	77
8.2	Environmental Protection Measures in the Sligo CDP 2027-2023 (extended) and Draft CDP 2024-2030	78
8.3	SEA and AA Mitigation Measures to Sligo Climate Action Plan (reworded/new text in blue font)	84
9	Monitoring.....	85
9.1	Introduction	85
Annex A: Assessment matrix		93

Annex A: SEA assessment matrix

This report has been prepared by Minogue Environmental Consulting Ltd with all reasonable skill, care and diligence. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid. This report is prepared for Sligo County Council and we accept no responsibility to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



County Sligo Climate Action Plan 2024 - 2029

1 Introduction

This is the Environmental Report that has been prepared as part of the Strategic Environmental Assessment of the draft Sligo Climate Action Plan 2024-2029 (CAP). It sets out how the SEA has been undertaken and presents the findings of the assessment of the actions of the draft CAP together with its' reasonable alternatives.

Under *Directive 2001/42/EC - Assessment of Effects of Certain Plans and Programmes on the Environment*, certain plans and programmes require an environmental assessment. This is known as the Strategic Environmental Assessment (SEA) Directive. Article 1 of this Directive states that its objective is:

'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.'

This Environmental Report complies with the requirements of the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) as implemented in Ireland through Statutory Instrument (SI) No.435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended).

These regulations are a statutory requirement for plans or programmes which could have significant environmental effects, and the assessment process aims to identify where there are potential effects and how any negative effects might be mitigated.

1.1 Background to County Sligo CAP

Through the Climate Action and Low Carbon Development (Amendment) Act 2021, Ireland is now on a legally binding path to net-Zero emissions no later than 2050, and to a 51% reduction in emissions by the end of this decade. The Act provides the framework for Ireland to meet its international and EU climate commitments and to become a leader in addressing climate change. As required by the 2021 Act, Sligo County Council is preparing their first Local Authority Climate Action Plan (LA-CAP) which must be adopted by the Elected Members before 23rd February 2024. This will continue the work undertaken over the first Climate Change Action Plan 2019-2024 which was non statutory.

1.1.1 Local Authority Climate Action Plans

Local Authorities will have a particularly important role in the delivery of both climate mitigation and adaptation. This is reflected in the provisions of the Climate Action and Low Carbon Development (Amendment) Act, 2021, which requires each Local Authority to prepare a CAP specifying the mitigation and the adaptation measures to be adopted by the Local Authority.

Local authorities are key drivers in advancing climate policy at the local level and the Sligo CAP aims to strengthen the alignment between national climate policy and local circumstances with the prioritisation and acceleration of evidence-based measures, to assist in the delivery of the climate neutrality objective for Sligo County Council.

Sligo County Council will use its CAP in planning how it will reduce greenhouse gas emissions from across its own assets and infrastructure, whilst also taking on a broader role to influence, facilitate and co-ordinate the climate actions of communities and other stakeholders and what it will do to advocate for climate action in Sligo. In order to ensure that the CAP is centred around a strong understanding of the role and remit of Sligo County Council on climate action, the Plan is being developed through the following framework.

- Full accountable: Targeted actions for areas where Sligo County Council has full accountability for climate action within their own operations.
- Influence: Actions for where Sligo County Council can influence businesses, communities, and individuals in the delivery of local climate action through the functions and services they provide.
- Coordination: Actions for where Sligo County Council can coordinate and facilitate local and community action bringing together stakeholders in partnership to achieve climate action related projects.
- Advocate: Actions aligned to Sligo County Council role as advocate on climate action through raising awareness, communicating, informing, and engaging in open dialogue on the topic.

While the Climate Action Plan will be ambitious to reflect the leadership role of Sligo County Council on climate action, the Plan will not include actions whereby their implementation and achievement fall outside our role, remit, and governance.

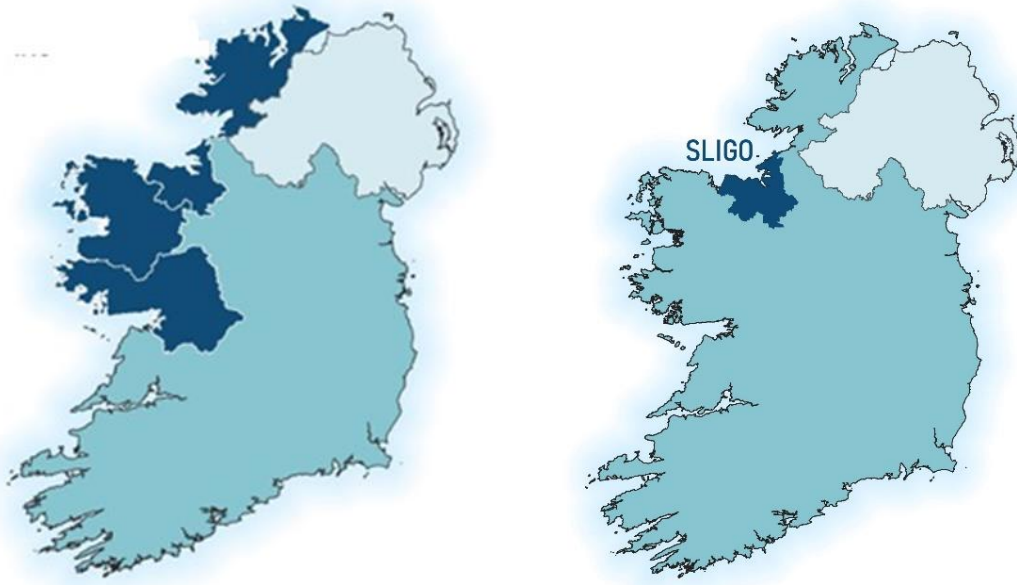
1.2 Scale, Nature and Location of the County Sligo CAP

The plan will cover all of the functional area of County Sligo. **Figure 1.1** shows the location of County Sligo, and the Atlantic Seaboard North Climate Action Regional office extent (CARO). Key themes with supporting actions include:

- Sustainability and resource management.
- Governance
- Community resilience and transition
- Environment and Biodiversity
- Transport and mobility

The Plan will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment, Ecological Impact Assessment and requirements as appropriate) that form the statutory decision-making and consent granting. Actions arising from the plan will demonstrate compliance with the environmental protection measures in the current Sligo County Development Plan 2017-2023 (extended), Draft Sligo CDP 2024 -2030, and SEA Environmental Reports and Natura Impact Reports that accompanies same.

FIGURE 1-1 COUNTY SLIGO AND THE CARO ATLANTIC SEABOARD NORTH



1.3 Structure and Preparation of this Environmental Report

Regulations contained in Schedule 2A of Statutory Instrument (S.I.) 436 of 2004 (as amended) details the information to be contained in an Environmental Report. The following **Table 1.1** lists the information required and details where this information is contained in this Environmental Report.

Table 1-1 Information Required to be contained in an SEA Environmental Report.

Schedule 2B of Statutory Instrument 435 of 2004	Addressed in this SEA ER
(a) an outline of the contents and main objectives of the plan and relationship with other relevant plans	Chapter One Introduction and Chapter Two Methodology outlines contents and main objectives Chapter Three details the relationship with other relevant plans
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Chapter Four Baseline Environment provides this information
(c) the environmental characteristics of areas likely to be significantly affected	Chapter Four Baseline Environment provides this information
(d) any Issues and Threats problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or Habitats Directive	Chapter Four Baseline Environment provides this information.
(e) the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation	Chapter Five: SEA Objectives provides this information
(f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health,	Chapter Seven, Significant Effects on the Environment provides this information

Schedule 2B of Statutory Instrument 435 of 2004	Addressed in this SEA ER
fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors	
(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan	Chapter Eight, Mitigation Measures provides this information
(h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information	Chapter Six, Alternatives Considered provides this information and difficulties encountered are listed at the end of Chapter Two, Baseline Environment.
(i) a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan	Chapter Nine, Monitoring provides this information
(j) a non-technical summary of the information provided under the above headings	This is provided as a separate document to this Environmental Report but is also available

2 Methodology

This chapter presents the SEA methodology in detail and outlines the steps required for SEA. The methodology used to carry out the SEA of the plan reflects the requirements of the SEA regulations and available guidance on undertaking SEA in Ireland, including:

- SEA Methodologies for Plans and Programmes in Ireland – Synthesis Report Environmental Protection Agency (EPA), 2003;
- Implementation of SEA Directive (2001/42/EC) Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities - published by the Department of the Environment, Heritage and Local Government, 2004;
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI 436 and SI 435 of 2004);
- Planning and Development (Strategic Environmental Assessment) Regulations 2011 (S.I. No. 201 of 2011);
- Planning and Development (Environmental Assessment of Certain Plans and Programmes) (S.I. No 200 of 2011);
- SEA Process Checklist Consultation Draft 2008, EPA 2008;
- Circular Letter PSSP 6/2011 Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment;
- Guidance on integrating climate change and biodiversity into Strategic Environmental Assessment European Union 2013;
- SEA Resource Manual for Local and Regional Authorities, Draft Version, 2013;
- Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note, EPA, 2015;
- Developing and assessing alternatives in Strategic Environmental Assessment, EPA, 2015;
- SEA of Local Authority Land Use Plans - EPA Recommendations and Resources (2020).
- Good practice guidance on Cumulative Effects Assessment in SEA, EPA, 2020
- Guidance on Strategic Environmental Assessment (SEA) Statements and Monitoring, EPA, 2020.

2.1 Stages in the SEA process

The steps involved in SEA are as follows:

- Screening (determining whether or not SEA is required).
- Scoping (determining the range of environmental issues to be covered by the SEA).
- The preparation of an Environmental Report (**current stage**)
- The carrying out of consultations.
- The integration of environmental considerations into the Plan or Programme.
- The publication of information on the decision (SEA Statement).

2.1.1 Scoping

The purpose of the SEA Scoping report is to identify the scope of the SEA and ensure that relevant data and environmental topics are included in the SEA. The Scoping report was issued to the statutory environmental authorities from 29th September to 27th October 2023.

Table 2.1 below summarises the main issues raised by consultees and the SEA response to same.

Consultee	Summary of comments	SEA Response
	<p>You should ensure that the Plan aligns with national commitments on climate change mitigation and adaptation, (such as the latest National Climate Action Plan) as well as any relevant sectoral or regional adaptation plans and adjacent local authority climate action plans.</p> <p>The Plan should include a commitment to consider any relevant updated actions, measures or recommendations that may arise in updates to the National Climate Action Plan over the lifetime of the Plan.</p> <p>The Plan and SEA should take into account the recent Climate Council Annual Review report, which is available at: https://www.climatecouncil.ie/councilpublications/annualreviewandreport/CCAC-AR2023-FINAL%20Compressed%20web.pdf</p> <p>Additionally, the relevant objectives and policy commitments of the National Planning Framework and the Northern and Western Regional Spatial and Economic Strategy and the Sligo County Development Plan should be aligned with and considered, as appropriate.</p>	<p>Relevant sectoral climate action and adaptation plans are considered within Chapter 3 and 4 of this SEA ER.</p> <p>Noted, agreed.</p> <p>Relevant objectives from national, regional and county plans are considered and aligned with as relevant.</p>
	<p>Greenhouse Gas Emissions</p> <p>In preparing the Plan and SEA, the direct and indirect impacts of the Plan on greenhouse gas emissions and removals should be assessed. The Agency's most recent projections reports Ireland's Greenhouse Gas Emissions Projections 2022-2040 (EPA, 2023) and Ireland's Provisional Greenhouse Gas Emissions 1990-2022 (EPA, 2023) should be taken into account. The Climate Action Plan identifies actions to decarbonise electricity generation, the built environment and transport and to move towards carbon neutrality for agriculture, forest and land use sectors. The Plan should also integrate and align with the relevant actions in the Climate Action Plan, as appropriate</p>	<p>Actions in the plan address transport, built environment, landuse, as well as agriculture and forestry. Some additional actions are recommended in this regard through the SEA and AA assessment processes.</p>
	<p>Climate Adaptation</p> <p>In preparing the Plan and SEA, you should consider how the impacts of climate change, individually and in combination, are likely to influence the implementation of the Plan. The Plan should look to improve resilience of existing and planned critical infrastructure, systems and procedures to the effects and variability of climate change. Vulnerable populations should be considered in the context of just transition/adaptation. The cascading effects of proposed adaptation measures should also be considered. Recent extreme weather events could be useful to assist in identifying areas where for further work is needed to improve resilience, e.g. the resilience of critical water service infrastructure to flooding and drought</p>	<p>The cumulative effects of adaptation measures is considered in Chapter 7 of this SEA.</p>
	<p>The Plan should include appropriate adaptation measures that can be implemented either directly or through relevant land use plans and/or specific plans e.g. Flood Risk Management Plans, River</p>	<p>Will be considered and integrated as appropriate.</p>

Consultee	Summary of comments	SEA Response
	<p>Basin Management Plans etc. The Plan will also help inform local authority land use and transport planning. Additional aspects to consider may include changes in native species and habitats and the spread of invasive species, pests and pathogens. In this regard, the Plant Atlas 2020 project looking at Ireland's changing flora might be useful to consider. A summary of this results can be found at: https://bsbi.org/wpcontent/uploads/dlm_uploads/2023/02/BSBI-Plant-Atlas-2020-summary-reportIreland-WEB.pdf</p>	
	<p>Water Quality The Plan should take into account the most recent Water Framework Directive water quality status and risk information, available on the EDEN WFD app. Relevant future projections of river flow are available in either EPA research reports (such as HydroPredict, pending), or academic papers related to these projects.</p>	Noted, will be considered.
	<p>Air quality The Plan should take into account the Draft National Clean Air Strategy (DECC). The Air Quality in Ireland 2021 Report (EPA, 2022) sets out the most recent status in each of the four air quality zones in Ireland and may be useful to consider. Data on levels of atmospheric pollutants from the EPA's national ambient air quality monitoring network should also be integrated as appropriate. The pollutants of most concern are traffic-related, including Particulate Matter and Nitrogen Dioxide.</p>	Noted, will be considered given localised transport emissions and impacts on biodiversity, water and human health.
	<p>Recent EPA Climate change related publications Some recent climate change publications that may be useful to consider in preparing the SEA and the Plan are shown below: - Ireland's Greenhouse Gas Emissions Projections 2022-2040 (EPA, 2023) - Ireland's Final Greenhouse Gas Emissions 1990-2021 (EPA, 2023) - Ireland's Provisional Greenhouse Gas Emissions 1990-2022 (EPA, 2023) - Climate Change's Four Irelands (EPA, 2022) - Ireland's Air Pollutant Emissions 2021 (1990-2030) (EPA, 2023)</p> <p>Additionally, further reports/publications are available at: can be consulted at https://www.epa.ie/publications/monitoring--assessment/climate-change/.</p> <p>Research report 429: Building Coastal and Marine Resilience in Ireland (EPA, 2023) may be useful to consider. It discusses the need for identification and increased awareness of climate change risks to Ireland's coastal communities. It also highlights the importance of building national resilience across socio-ecological and economic systems. Other climate- related environmental research reports are available at: https://www.epa.ie/publications/research/climate-change</p>	Noted, will be reviewed and included as appropriate.
	<p>EPA State of the Environment Report Our State of Environment Report, Ireland's Environment - An Integrated Assessment 2020 (SOER2020) identifies thirteen high level 'Key Messages for Ireland'.</p>	Noted

Consultee	Summary of comments	SEA Response
	<p>Delivering Ireland’s long-term sustainable development and environmental objectives will involve many different stakeholders to address these key actions. The report recognises the need for full implementation of existing environmental legislation and review of governance/coordination on environmental protection across public bodies. Specifically, information provided in the following chapters should be considered, as appropriate and relevant. - Chapter 2 (Climate) highlights the clear need for systemic change in Ireland to ensure the country will become the climate neutral and climate resilient society it aspires to be. More urgency is needed to deliver actions on climate mitigation and adaptation and to ensure that Ireland meets its international obligations to reduce greenhouse gas (GHG) emissions. Further measures are required to meet national and EU ambitions to keep the global temperature increase to 1.5°C.</p> <p>These measures will contribute to Ireland achieving climate neutrality by 2050. - Chapter 11 (Transport). The transport sector has a significant impact on the environment, including being responsible for 20 per cent of Ireland’s greenhouse gas emissions. A sustainable mobility transformation is required, with the next decade crucial, whereby necessary journeys are made by sustainable modes such as walking, cycling and public transport, followed by using electric vehicles where unavoidable. For this transformation to happen the measures relating to transport in the Climate Action Plan, and other necessary measures, must be fast tracked.</p> <p>Long-term, integrated spatial and transport planning can achieve compact development and move trips to other modes of transport, including cycling and should be supported in the Plan. Shifting to these modes is an essential part of a sustainable and climate-neutral transition for the transport sector. - Chapter 12 (Energy). Almost 90% of our total energy use is provided by combustion of mostly imported fossil fuels, which is unsustainable, and we need to begin fast tracking measures within the Climate Action Plan and other necessary solutions. This will involve strategic planning to transform this situation by 2050. Transitioning to using clean energy is essential for the protection of human health, our climate and the wider environment and will help support sustainable development of our society and economy. - Other chapters to consider include Chapter 6 (Nature) and Chapter 13 (Environment and Agriculture).</p>	
	<p>Population and Human Health: Air quality and water quality considerations should also be included in the list of aspects to be considered in relation to population and human health. Issues around equity and how vulnerable groups can be best assisted in dealing with and adapting to climate change should be considered, as relevant to the Plan.</p>	<p>These topics are considered in Chapter 4, 7 and mitigation measures recommended as appropriate .</p>

Consultee	Summary of comments	SEA Response
	<p>Biodiversity: The Plan should also seek to protect existing green and blue infrastructure and key ecological corridors from inappropriate development.</p> <p>Water Resources: With regards flooding, the Plan should consider the need for appropriate zoning and development of lands to avoid incompatible land uses in areas at risk of significant flooding.</p> <p>Soils / Geology: The protection of high nature value farming areas, and key agricultural lands should be considered. Where natural resources are required to support development, these should be carried out as efficiently as possible.</p> <p>Landscape: The key issues for the SEA to consider could also include the potential ‘visual impact’ of any proposed measures with potential to impact on sensitive landscape areas.</p> <p>Material Assets Transportation: The Plan should align with the transport commitments in the National Planning Framework, Northern and Western Regional Spatial and Economic Strategy, where appropriate and relevant.</p> <p>Water Supply: Uisce Eireann’s National Water Resources Adaptation Framework (and any relevant Regional Water Resource Plans) takes account of potential climate change implications for drinking water supply/service provision and may be also useful to consider.</p> <p>Cross-cutting issues Climate change will affect all aspects of our economy and society, with many issues impacting on the operations of individual local authorities. In implementing the Plan and in responding effectively to climate change, coordination, and collaboration among stakeholders on cross-cutting issues is needed</p>	
<p>Department of Housing, Heritage and Local Government</p>	<p>In the preparation and implementation of the local authority adaptation strategy, there are a number of issues regarding protection of built and archaeological heritage that this Department recommends be taken into account to identify the heritage assets at risk in its area, assess their vulnerability to climate change, increase their resilience and develop disaster risk reduction policies for direct and indirect risks. For example, it is recommended that the strategies should consider:</p> <ul style="list-style-type: none"> • Identifying the built and archaeological heritage assets in the local authority area including, but not restricted to, structures and sites subject to statutory protection under the National Monuments Acts 1930 to 2014, or the Planning and Development Acts; • Including objectives to carry out climate change risk assessments, including condition assessments, for the historic structures and sites in its area; • Including objectives to develop disaster-risk reduction policies addressing direct and indirect risks to the built and archaeological heritage in its area; • Including objectives to develop resilience and adaptation strategies for the built and archaeological heritage in its area; • Developing the skills capacity within the local authority to address adaptation/mitigation/emergency management issues affecting heritage assets in order to avoid inadvertent loss or damage in the course of climate change adaptation or mitigation works. This Department will shortly be publishing a new guidance document Improving 	<p>Noted, risk assessment of sites is included as a CAP action</p> <p>Reference to guidance due soon is positive and should be included in the final CAP</p> <p>Recommendation re conservation, heritage officer and archaeologist once appointed is noted.</p>

Consultee	Summary of comments	SEA Response
	<p>Energy Efficiency in Traditional Buildings. This guidance will assist retrofitting installers and specifiers in how best to choose and apply energy efficiency measures to the historic building stock. The guidance is also intended to assist building owners and occupants in making decisions about upgrading their buildings, many of which are of architectural heritage significance. It is recommended that all proposed retrofitting projects undertaken or supported by the local authority to buildings of traditional construction should follow the principles and practice set out in that guidance. Finally, it is recommended that, where such officers are employed, the Architectural Conservation Officer, Heritage Officer and Archaeologist should be included on the local authority's Adaptation Steering Group.</p>	
<p>Geological Survey of Ireland</p>	<p>With reference to your email received on the 09 October 2023, concerning the Sligo County Council Climate Action Plan 2024-2029, Geological Survey Ireland would encourage use of and reference to our datasets. This data can add to the content and robustness of the SEA process. With this in mind please find attached a list of our publicly available datasets that may be useful to the environmental assessment and planning process. We recommend that you review this list and refer to any datasets you consider relevant to your assessment. The remainder of this letter and following sections provide more detail on some of these data.</p> <p>Recommended datasets include: Geoheritage, Groundwater, Geotechnical, Geohazards, Geothermal energy, Natural resources plus research projects.</p>	<p>Noted the datasets have been considered through the SEA process and applied as appropriate.</p>

2.1.2 Baseline data

The baseline data assists in describing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan. It helps identify Issues and Threats in and around the plan area and in turn these can be quantified (for certain environmental parameters) or qualified. This highlights the environmental issues relevant to each SEA parameter and ensures that the plan implementation does not exacerbate such problems. Conversely this information can also be used to promote good environmental practices and opportunities for environmental enhancement, thereby improving environmental quality where possible.

Baseline data was gathered for all parameters.

Other data was gathered from the SEA ER of the North and Western Regional Economic and Spatial Strategy, NPWS, Birdwatch Ireland, Bat Conservation Ireland, National Biodiversity Centre, Irish Water, the EPA, Met Eireann and other sources as appropriate including reports recommended by the EPA in their Scoping Submission. Footnotes throughout the document, particularly in Chapter Four present the reference and source.

The SEA has also used a Geographical Information System (GIS) in the following ways:

- To provide baseline information on a range of environmental parameters;
- To assist in assessment of alternatives;
- To help assess in-combination or cumulative impacts, and
- To provide maps to illustrate environmental parameters in the SEA Environmental Report.

2.1.3 Approach to assessment of significant environmental impacts

The principal component of the SEA involves a broad environmental assessment of the CAP. A methodology that uses the concept of expert judgement, public consultation, GIS and matrices, both to assess the environmental impact and to present the conclusions has been adopted in this SEA.

Key to assessing the above is setting a specific set of environmental objectives for each of the environmental topics. The objectives are provided in Chapter Five and include all aspects of the environment such as Cultural heritage, Population and Human health, and Biodiversity, Flora and Fauna.

The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the actions identified in the CAP with the Strategic Environmental Objectives. Furthermore, the assessment examines the potential impact arising from the plan's implementation on sensitive environmental receptors.

The SEA Directive requires that information be focused upon **relevant aspects** of the environmental characteristics of the area likely to be **significantly affected** by the plan and the likely change, both positive and negative, where applicable.

Chapter Seven provides a discussion, where relevant, on the significance and type of the identified impact in accordance with current guidelines.

A key part of the SEA process has been the integration of the draft CAP, the SEA and Appropriate Assessment. The SEA legislation and guidelines highlight the importance of the integration between the preparation of the draft CAP and the SEA and AA processes. The iterative nature of the SEA process is such that the CAP is informed by environmental considerations throughout the

preparation of the plan . The Natura Impact Report is a separate document to the Environmental Report both of which accompany this draft CAP.

2.1.4 Mitigation

Section (g) of Schedule 2B of the SEA Regulations requires information on the mitigation measures that will be put in place to minimise/eliminate any significant adverse impacts due to the implementation of the plan. Chapter Eight of this SEA ER highlights the mitigation measures that will be put in place to counter identified significant adverse impacts due to the plans' implementation.

The CAP has been prepared having regard to the environmental protection objectives already within the draft plan and the iterative process between SEA and plan preparation. However, some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter Nine details the mitigation measures necessary to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the CAP.

2.1.5 Monitoring

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the plan in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action. Chapter Nine presents the monitoring requirements for the plan.

2.1.6 Habitats Directive Assessment

The Habitats Directive requires, *inter alia*, that plans and programmes undergo AA screening to establish the likely or potential effects arising from implementation of the plan. If the effects are deemed to be significant, potentially significant or uncertain then the plan must undergo Stage 2 AA. The preparation of the CAP, SEA and AA are taking place concurrently and the findings of the AA have informed both the SEA and the plan itself. The SEA has also applied the methodology for Integrated Biodiversity Assessment where relevant (EPA, 2015).

2.1.7 Data Gaps

Data gaps are present in terms of upto date human health and population information. More broadly, understanding the interactions between climate change, weather events, and impacts on water and biodiversity in particular are complex. Sectoral climate change adaptation plans have been referenced and used to fill these data gaps where possible.

The SEA ER has used an ecosystems services modelling approach to attempt to address these data gaps particularly in terms of understanding the role and inter-relationships between environmental parameters including water resources, biodiversity and human health.

3 Relationships to Plans

Under the SEA Directive, the relationship between the and other relevant plans and programmes must be taken into account. The preparation of the CAP must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the CAP will operate. A list of the key relevant international, national, regional and county policies to be included in the review are provided below in Sections 3.2 to 3.4; Section 3.5. The list below is adapted from the EPA SEA of Local Authority Land-Use Plans - EPA Recommendations and Resources 2023 (Version 1.19)¹. **Table 3.1** identifies key principles that inform the SEA process arising from this review and how they relate to the EPA Themes in the State of Ireland’s Environment as well as the UN Sustainable Development Goals.

3.1 International and National

- United Nations Sustainable Development Goals
- National Planning Framework(under review currently) (DHLGH)
- National Biodiversity Plan (DHLGH)
- Climate Action Plan 2022 (DECC)
- Sectoral Climate Change Adaptation Strategies and Low Carbon Roadmaps
- National Mitigation Plan (DECC)
- National Adaptation Framework (DECC)
- National Policy Position on Climate Action and Low Carbon Development (DECC)
- EU Climate Adaptation Strategy 2021
- National Broadband Plan (DECC)
- National Renewable Electricity Policy Framework (in preparation DECC)
- Grid 25 Implementation Strategy (Eirgrid)
- Framework for Alternative Fuel Infrastructure in Transport (DoT)
- National Bioenergy Plan (DECC)
- National Landscape Strategy (DHLGH)
- Smarter Transport / Strategic Framework for Integrated Land Transport (DoT)
- National Greenway Strategy (DoT)
- State of the Environment Report 2020 (EPA)
- Waste Action Plan for a Circular Economy (DECC, 2020)
- Draft National Hazardous Waste Management Plan (EPA, in preparation)
- National River Basin Management Plan for Ireland (DHLGH)- Draft in preparation and under notification by European Commission to respond within 2 months (due November 2023)
- National Marine Planning Framework (DHLGH)
- Water Services Strategic Plan (Irish Water)
- Capital Investment Programme (Irish Water)
- Draft Water Resources Management Plan (Irish Water)
- National CFRAMS Programme (OPW)
- Clean Air Strategy 2023 (DECC)

3.2 Regional and Local

- North Western Regional Economic and Spatial and Strategy
- Relevant CFRAMS Flood Risk Management Plan (OPW)
- Pollution Reduction Programmes for Shellfish Waters (DHPLG)
- Regional Waste Management Plan (CUWR)
- National Investment Framework for Transport Investment (DTTAS)

¹ [Preliminary SEA Scoping Submission – Greater Dublin Area \(epa.ie\)](#)

- National River Basin Management Plans (DHPLG)
- Sligo County Council Documentation: Sligo County Development Plan 2017 to 2023 (extended), Draft Sligo CDP 2024-2030 and associated environmental assessments including SEA Environmental Reports(ER), Natura Impact Reports (NIR) and Strategic Flood Risk Assessment (SFRA).
- Sligo Arts Plan 2020-2025
- Draft Sligo Heritage and Biodiversity Plan 2023 -2027
- Local Transport Plans for Sligo city(in prep)
- Sligo Climate Change Action Plan 2019-2024

3.3 Key implications and principles arising from the Plan, Policy and Programme Review.

Arising from the review, several key principles and implications for the SEA ER can be established. These principles are considered through the SEA process and inform the assessment. For consistency the Strategic Environmental Objectives (SEOs) developed for the Sligo County Development Plan 2022 -2028 are proposed for application in the SEA of the CAP, as appropriate. In addition, the key environmental messages identified in the EPA 'State of the Environment' report for 2020 are presented, where relevant, to align the key principles with these key environmental messages and challenges for the environment, in addition to relevant UN Sustainable Development Goals. Please see **Table 3.1** overleaf which presents this information. SEOs were not commented upon during the SEA Scoping stage and remain as shown below and in Chapter 5.

TABLE 3-1 KEY PRINCIPLES AND IMPLICATIONS FOR THE SEA OF THE COUNTY SLIGO CAP 2024-2029

Strategic Environmental Objectives in the draft Sligo County Development Plan 2024 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Climate Change	<p>To minimise emissions of greenhouse gasses</p> <ul style="list-style-type: none"> Integrate sustainable design solutions into the County's infrastructure (e.g. energy efficient buildings; green infrastructure) Contribute towards the reduction of greenhouse gas emissions in line with national targets Promote development resilient to the effects of climate change Promote the use of renewable energy, energy efficient development and increased use of public transport <i>Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</i> 	<p>SOE3 Health and Wellbeing SOE5 Air Quality SOE4 Climate SOE6 Nature SOE 8 Marine SOE9 Clean Energy SOE 11 Water Services SOE12 Circular Economy SOE13 Landuse</p>	<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts</p>
Population and Human Health (PHH)	<ul style="list-style-type: none"> <i>Safeguard the Sligo's citizens from environment-related pressures and risks to health and well-being including air, water and noise pollution, climate change and flooding.</i> Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management Ensure that existing population and planned growth is matched with the required public infrastructure and the required services Safeguard the County's citizens from environment-related pressures and risks to health and well-being 	<p>SOE3 Health and Wellbeing SOE4 Climate SOE5 Air Quality SOE 11 Water Services SOE 12 Circular Economy SOE13 Landuse</p>	<p>Goal 3: Ensure healthy lives and promote well-being for all at all ages. Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts.</p>

	Strategic Environmental Objectives in the draft Sligo County Development Plan 2024 -2028	EPA Ireland's Environment 2020	UN Sustainable Development Goals
			Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Biodiversity, Flora and Fauna (BFF)	<ul style="list-style-type: none"> To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species Enhance biodiversity in line with the National Biodiversity Strategy and its targets To protect, maintain and conserve the County's natural capital 	SOE 4 Climate SOE 5 Air Quality SOE 6 Nature SEO 8 Marine SOE 11 Water Services SEO 12 Circular Economy SOE 13 Land use	Goal 3: Ensure healthy lives and promote well-being for all at all ages. Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 13: Take urgent action to combat climate change and its impacts. Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Soil and Geology (SG)	<ul style="list-style-type: none"> Protect soils against pollution, and prevent degradation of the soil resource Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County Safeguard areas of prime agricultural land and designated geological sites 	SOE4 Climate SOE6 Nature SOE 11 Water Services SOE 12 Water Services SOE13 Landuse	Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts. Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Strategic Environmental Objectives in the draft Sligo County Development Plan 2024 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Water (W)	<ul style="list-style-type: none"> • Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • 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 • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, including coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals 	SOE3 Health and Wellbeing SOE5 Air Quality SOE4 Climate SOE6 Nature SOE 11 Water Services SOE13 Landuse	Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 13: Take urgent action to combat climate change and its impacts. Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
Air and Noise (AN)	<ul style="list-style-type: none"> • 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 • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality 	SOE3 Health and Wellbeing SOE5 Air Quality SOE4 Climate SOE6 Nature SOE 8 Marine SOE9 Clean Energy SOE 11 Water Services SOE12 Circular Economy SOE13 Landuse	Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 13: Take urgent action to combat climate change and its impacts.

Strategic Environmental Objectives in the draft Sligo County Development Plan 2024 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
	<ul style="list-style-type: none"> • 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 • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels 		
Material Assets	<ul style="list-style-type: none"> • Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County • 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 • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes • 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 	SEO3 Health and Wellbeing SOE 5 Air Quality SOE9 Clean Energy SOE 13 Land use SOE 11 Water Services SOE 12 Circular Economy	Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts. Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Strategic Environmental Objectives in the draft Sligo County Development Plan 2024 -2028	EPA Ireland's Environment 2020	UN Sustainable Development Goals
	energy efficient buildings, retrofitting, smart-buildings, cities and grids	
Cultural Heritage (CH)	<p><i>To support adaptive re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).</i></p> <ul style="list-style-type: none"> • Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage 	SOE3 Health and Wellbeing SOE 12 Circular Economy SOE13 Landuse
Landscape	<ul style="list-style-type: none"> • To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention 	SOE3 Health and Wellbeing SOE 4 Climate SOE 5 Air Quality SOE 6 Nature SEO 8 Marine SOE 11 Water Services SOE 12 Circular Economy SOE 13 Land use

4 Summary of current Environmental Baseline in County Sligo.

4.1 Introduction

The plan area encompasses County Sligo. Therefore, the primary focus of the environmental baseline are the county areas, and depending on the environmental parameter at a larger scale. For example, built heritage might be confined to a street or specific site, whereas water resources such as rivers, lakes, estuaries and coastal waters are far larger in scope and can be influenced by activities at a larger scale or activities upstream. Similarly, mobile species may disperse over larger areas of the landscape and require consideration at County and regional level depending on the species under consideration. The scope of the baseline has been informed by the scoping submissions received.

4.2 Green and Blue Infrastructure and Ecosystem Services

Green infrastructure planning is a successfully tested tool to provide environmental, economic and social benefits through natural solutions. In many cases, it can reduce dependence on 'grey' infrastructure that can be damaging to the environment and biodiversity, and often more expensive to build and maintain. While green infrastructure promotes the amenity and quality of life value of nature within urban settings and is not solely for the benefit of biodiversity, it is noted that it can contribute significantly to the retention and enhancement of ecological connectivity.

Green Infrastructure is defined as *'an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations'* (Comhar, 2010). Such spaces include woodlands, coastlines, flood plains, hedgerows, fields, gardens, turloughs, lakes, city parks and street trees, and the benefits to humans they provide include water purification, flood control, carbon capture, food production and recreation. Incorporation of green infrastructure in spatial planning and sectoral decision making helps to prevent biodiversity loss and fragmentation of ecosystems, thus restoring, maintaining and enhancing ecosystems and their services. It will improve resilience and adaptation to climate change and enable greater connectivity between ecosystems in protected areas and the wider countryside. The European Commission produced a strategy on green infrastructure in 2013. Due to its obligations under the European Landscape Convention, Ireland has prepared the National Landscape Strategy for Ireland 2015-2025, which has significant implications for biodiversity.

There are many inter-relationships between green-infrastructure and other environmental parameters, for instance, its integration with human health through sport and recreation opportunities as well as increasing accessibility to amenity and recreation areas and promoting social inclusion; natural heritage and cultural heritage. Sligo is rich in biodiversity and developing the connectivity between existing ecological corridors offers great potential in the Plan area for biodiversity and increasing resilience to climate change effects.

4.2.1 Ecosystem Services

The following section provide a brief overview of the existing ecosystem present in and around the plan area. The NW RESS states the following under Regional Policy Objective 5.6

RPO 5.6 Develop awareness and create a greater appreciation of the benefits of our natural heritage, including on the health, wealth and well-being of the regions ecosystem services.

See **Box 1** below for description of Ecosystem Services and figure 4.2 for graphic of same; whilst **Figure 4.3 to 4.5** presents the NPWS Mapping Ecosystem Services Pilot Project that identifies a number of ecosystem services at plan level. These maps highlight the significant role peat soils and bogs play in ecosystem services at plan level.

Box 1 ECOSYSTEM SERVICES

Ecosystem services are the benefits that flow from nature to people. They can be provisioning (e.g. the supply of food, clean air and water and materials), regulating (e.g. water and climate regulation, nutrient cycling, pollination, or the formation of fertile soils), or cultural (e.g. recreation opportunities, or the inspiration we draw from nature). Natural ecosystems are multifunctional – they can provide a wide range of services simultaneously. The range and flow of these benefits depends largely on biodiversity and ecosystem condition.

A network of healthy ecosystems often provides cost-effective alternatives to traditional 'grey' infrastructure, offering benefits for EU citizens and biodiversity. This is why the EU promotes the use of nature-based green and blue infrastructure solutions¹.

FIGURE 4-1 PRINCIPAL ECOSYSTEM SERVICES



¹ https://ec.europa.eu/environment/nature/ecosystems/index_en.htm

FIGURE 4-2 ECOSYSTEM SERVICES CARBON IN SOIL

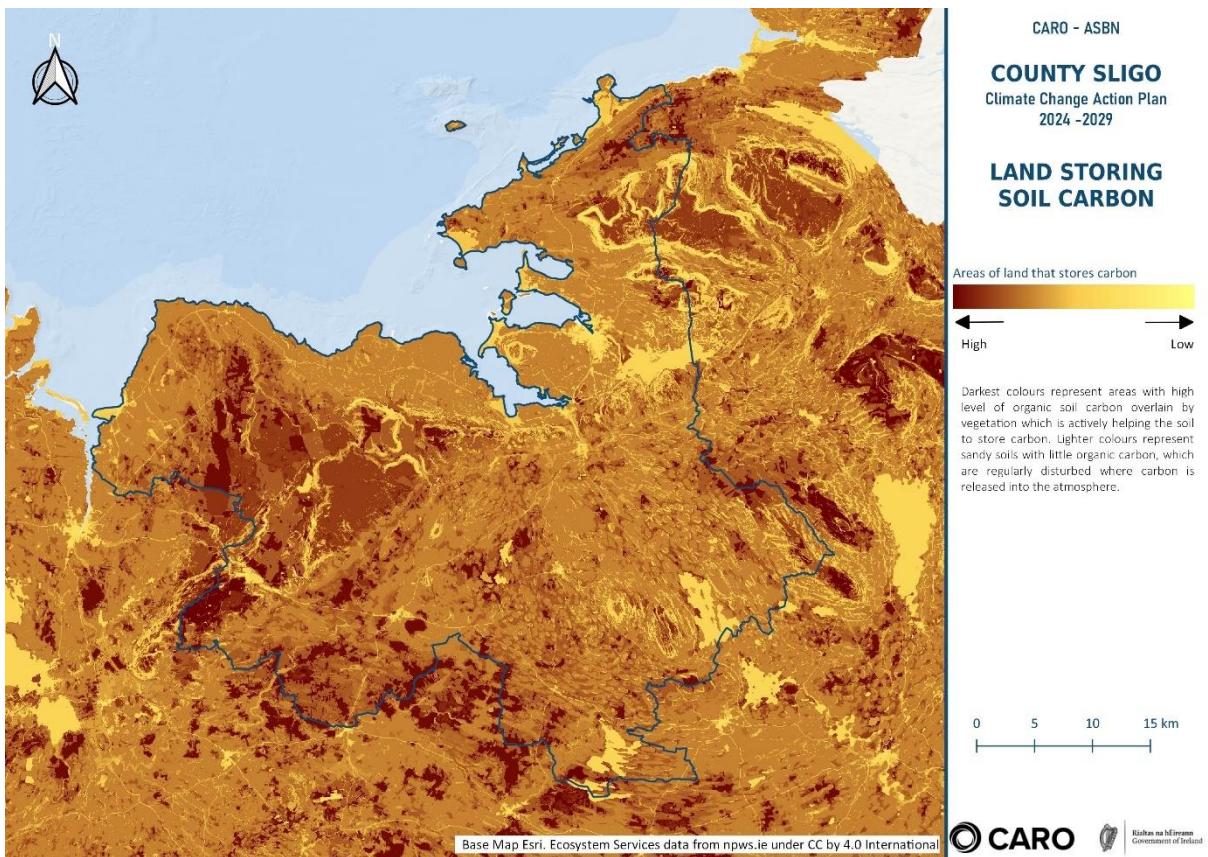


FIGURE 4-3 ECOSYSTEM SERVICES WATER RETENTION

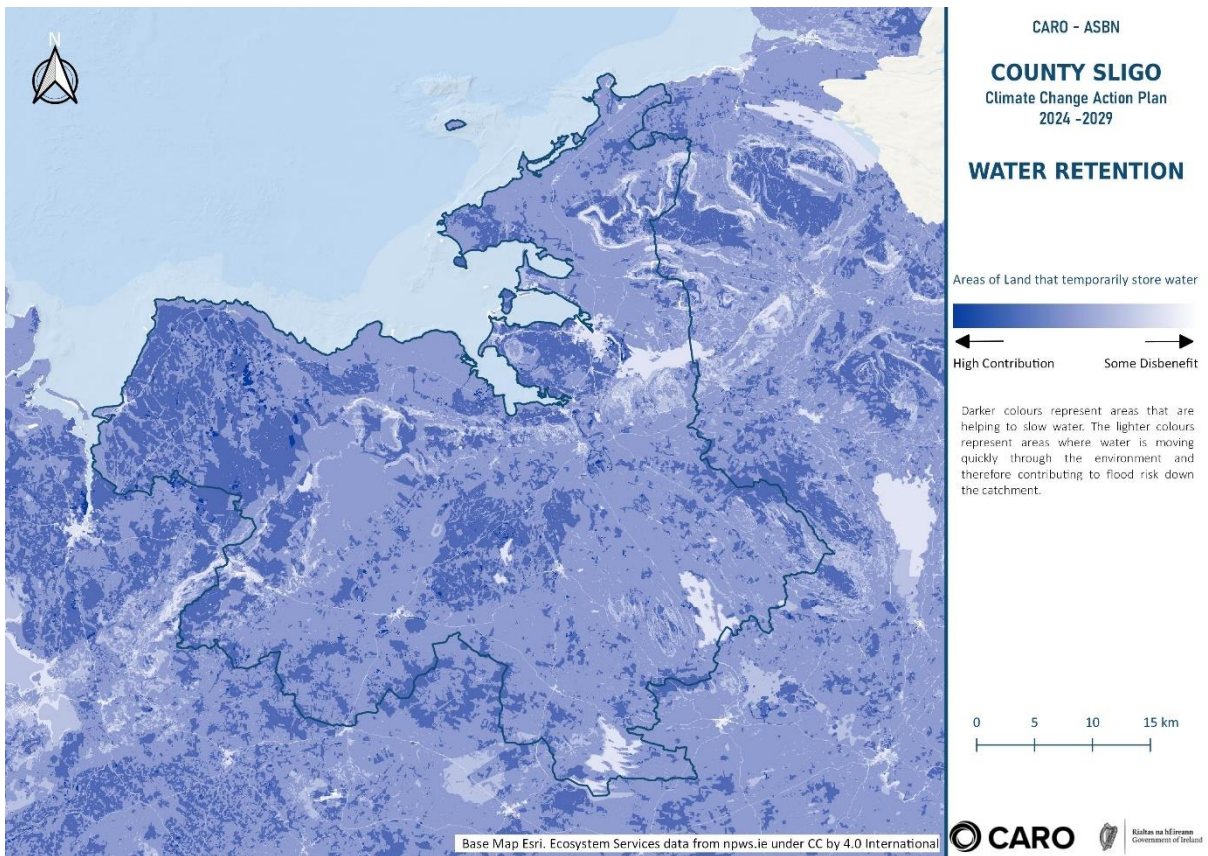
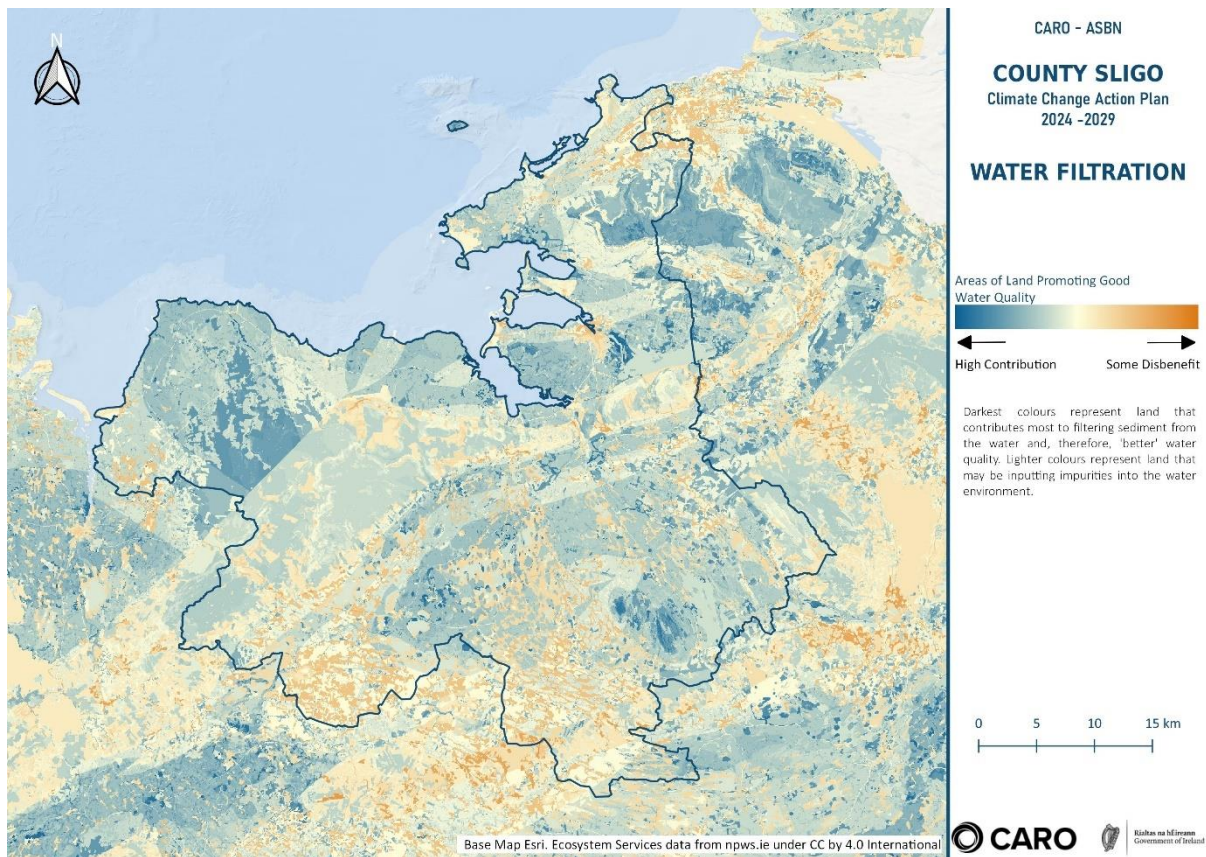


FIGURE 4-4 ECOSYSTEM SERVICES WATER FILTRATION



4.3 Biodiversity, flora and fauna

4.3.1 Designated sites

The Plan area is rich in biodiversity, containing many important, and protected, habitats and species such as, coastal habitats from cliffs to estuaries, reefs, machairs, mudflats, sandy beaches, and terrestrial habitats such as lakes, turloughs, fens, wetlands, woodlands, bogs, wildfowl (duck and geese), waders, salmon, lamprey and otters. However, it also contains many other habitats which are not protected such as scrub, parks, streams, hedgerows, tree lines, roadside verges, housing estate open spaces and gardens. It is these locally important habitats and species within the landscape, including extensive areas of peatlands and heath, broadleaf woodlands, grasslands and turloughs, which provide links between the more rare and protected habitats, and are essential for the migration, dispersal and genetic exchange of wild plants and animals such as garden birds (robins, wrens, finches, etc.) and migrant summer visitors (swallows, cuckoos, warblers, etc), otters, hedgehogs, bats, pigmy shrew and other Irish mammals, Freshwater Pearl Mussel, White-clawed Crayfish, lamprey, salmon and other fish species, and a variety of invertebrates, including Geyer’s Whorl Snail, beetles, bees, butterflies, dragonflies and damselflies. They also allow for the spread of seeds, which benefit the wildflower populations of County Sligo. It is recognised that many rare and protected species are reliant on locally important species, and as such the protection of common habitats and species should not be underestimated.

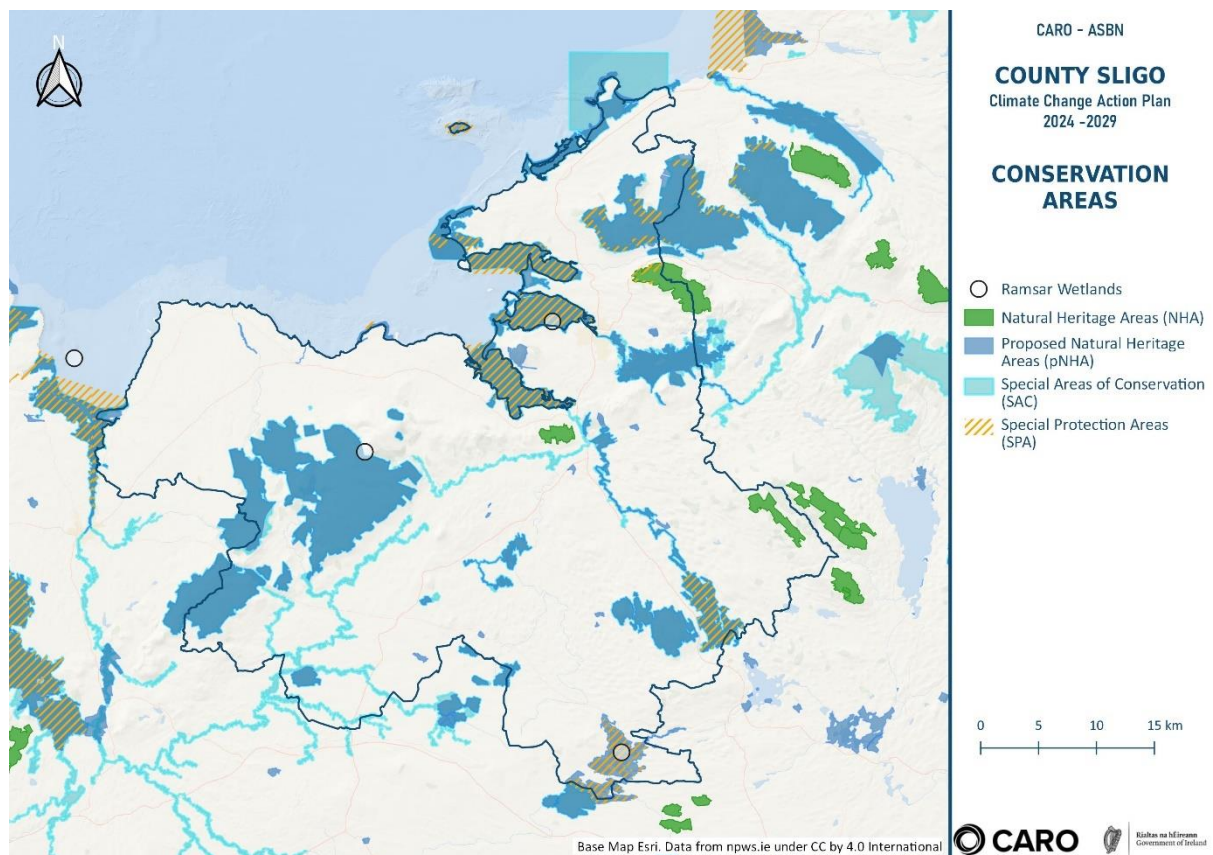
Collectively referred to as the Natura 2000 network, SACs and SPAs are designated in consideration of Habitats Directive Annex I habitats and Annex II species and classified in consideration of Birds Directive Annex I bird species. This high percentage reflects the international and national significance of Sligo’s wealth of natural heritage. Few Natura 2000 sites are exclusively designated or classified in consideration of terrestrial or aquatic qualifying interests; many consist of a combination of terrestrial, freshwater and marine habitats and species. In the natural environment

also there is considerable overlap between terrestrial and aquatic fauna and flora, with each co-existing and co-reliant in many cases. A full assessment of the Plan against the qualifying interests and conservation objectives of the designated sites is undertaken throughout the appropriate assessment process which has been undertaken in conjunction with the Plan and SEA processes and is presented in the Natura Impact Statement.

European sites in the County occur in the greatest concentrations along the coast, the main waterways and in upland areas. European sites comprise: Special Areas of Conservation (SACs); and Special Protection Areas²⁹ (SPAs). There are 51 European sites (36 SACs and 15 SPAs) designated within this zone of influence which follows the approach used in the appropriate assessment, 15km buffer around the county, of which 31 sites (20 SACs and 11 SPAs) are within or partially within County Sligo.

Natural Heritage Areas also have a significant role in supporting the species using Natura 2000 sites mainly relating to mobile fauna such as mammals and birds which may use pNHAs and NHAs as “stepping stones” between Natura 2000 sites. Article 10 of the Habitats Directive and the Habitats Regulations 2011, place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows form key “stepping stones”. They also provide other important ecosystem services such as carbon sequestration, flood attention, water filtration, and recreation. There are a number of other sites across the County that have been designated for environmental and/or ecological protection. These include Ramsar sites, Nature Reserves and Wildfowl Sanctuaries. These are areas of huge importance for the protection of biodiversity at a local level and also in the provision of amenity and educational resource. See **Figure 4.5** for principal designated sites.

FIGURE 4-5 DESIGNATED CONSERVATION SITES



4.3.2 Peatlands and wetlands

The following section summarises these key habitats which are essential in terms of climate change adaptation and mitigation as well as providing numerous services and space for nature.

Peat soils cover 20.6% of the national land area. Peat soils are the most dominant soil type in County Sligo. Peatlands are found at many locations across the County and extensively in the western, south-western and north-western parts of the Plan area. Active blanket bogs and active raised bogs are considered to be priority habitats, listed on Annex I of the EU Habitats Directive. Ombrotrophic (rain-fed) and minerotrophic (groundwater-fed) peat soils are often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues. Many of these peat areas are also subject to ecological designations . Bogs and heath support a wealth of wildlife. Several birds of conservation importance such as Greenland white-fronted geese, golden plover, dunlin, curlew, merlin and red grouse use the bogs and occur in Sligo. The Irish hare is widespread on many of the county's peatlands. Butterflies such as the very rare marsh fritillary and numerous species of moths can also be found on Sligo's bogs.

Sligo also supports fen habitats; any species of wildfowl use fen areas. These include whooper swan, wigeon, lapwing and golden plover. Prime upland sites include the Ben Bulbin, Gleniff And Glenade Complex SAC, and Ox Mountains. The presence of these bogs habitats and their international importance is reflected in the high number of sites with natural heritage designations as shown in the following maps.

Whilst many of the bogs are protected through their designation as National Heritage Areas under the Wildlife Amendment Act, there are other areas that are not protected which lie outside of the NHA designation. The aim of the National Raised Bog SAC Management Plan (2017-2022) sets out to provide clarity to all parties regarding how these sites will be managed and restored into the future in co-operation with land-owners and local communities and in keeping with legal obligations.¹ Within the National Raised Bog Management Plan 3 raised bog SAC have been identified within County Sligo and analysed as follows;

- Flughany Bog SAC – 000497
- Turloughmore SAC - 00637
- River Moy SAC – 002298

A wetland is an area that is saturated by water and this saturation has allowed specially adapted plants and animals to establish. As part of the project to map Ireland's wetlands, a preliminary mapping project of all wetlands (both known and potential wetland sites) in County Sligo has been completed. Many of these are regarded as being internationally important. Wetlands are effectively the border between the open water and dry land. Reeds, sedges, water forget-me-not, marsh marigold and purple loosestrife provide cover for ducks and wading birds. Other wetlands, such as bogs, heath and fens, occur where the water table is close to the surface, or where the bedrock is impenetrable. Wetlands, such as fens and bogs, only retain carbon if they are moist. Therefore, when a bog or fen is drained or infilled, they become major carbon sources, releasing huge quantities of carbon dioxide into the atmosphere as the peat decays and oxidises. In addition, the changing conditions result in the loss of water dependant species. Changes in water quality as a result of pollution (from surface run-off, WWTPs etc.) also significantly impact wetlands.

The value of wetlands include their function in improving water quality, for floodwater storage whereby they can slow down the force of flood and storm waters as they travel downstream;

¹ www.ipcc.ie and www.wetlands.ie

habitat for wildlife; support biodiversity; provide valuable open space and create recreational opportunities; are vital for preventing further climate change by acting as carbon storage and are part of cultural heritage.¹

There are many wetland areas in the county, many of which are protected under national or European designations in the form of SACs, SPAs, NHAs. There are many more wetland areas outside of designated sites as well as potential wetland sites which, due to geology and hydrogeology of the area, include turloughs some of which only become visible during the wetter winter months. In addition, there are significant areas of *cladium* fen (priority Annex habitat) in the County.

4.3.3 Woodland habitat

Ancient woodlands are considered to be those which are established and had continuous cover before afforestation and planting became common practice in Ireland. Ancient woodlands are vulnerable to impacts from clearing and sensitive due to their age and habitat types associated with them. A provisional inventory of ancient woodlands undertaken by the NPWS shows that there are 2,720 ha of Native Woodland in the county, 1.48% of the county, with a quarter of woodlands being associated with lakes such as the woodland at Hazelwood Demense adjacent to Lough Gill.² A fine examples of woodland are present at Union Woodland SAC, located on the eastern bank of the Ballysadare River between Ballysadare and Collooney. The site contains old oak woodland which is typical of western Oak wood (*Blechno-Quercetum*) and one of the best remaining in the region.

Hedgerows are an important feature of the Sligo landscape and an integral part of the rural environmental fabric, especially in the south and east of the county. The county's hedgerow network is valuable not only in terms of agriculture, landscape and biodiversity—facilitating the movement of wild flora and fauna, acting as ecological corridors between habitat features, but functions to filter pollution, improve water quality and sequester carbon. A survey of hedgerows was undertaken in 2008³, using a standard methodology in 18 sample 1 km squares distributed evenly around the county, covering approximately 1% of its total area. The focus of the survey was to record information on the extent, species composition, structure, condition and management of hedgerows in County Sligo. Based on the results from the sample, the total length of hedgerow in County Sligo was estimated at 10449km, and the average figure for hedgerow density as 5.33 kilometres per square kilometre (km/km²). Examination of Ordnance Survey maps indicates that the majority of hedgerows in the county originated between 1837 and 1912. A total of 24 shrub and tree species, including 13 native species, were recorded in the sampled hedges. Whitethorn is the most frequently occurring shrub species found in 88% of hedges; Ash is the most common tree species, occurring in 47% of hedges in tree form. There was an average of 2.71 tree/shrub species per 30m sample strip. 73% of hedgerows sampled comprised solely of native species. Approximately 13% of hedges recorded were classed as 'species rich', with the majority of these found in the eastern half of the county. Hedges with drains were found, on average, to contain greater species diversity than those with no drains. Roadside hedges made up 17% of the sample, with Townland boundaries accounting for 8%. Given the age of this survey an updated survey would be beneficial to understand changes to hedgerows and identify opportunity for creation of new wildlife corridors.

4.3.4 Coastal habitats

The county has around 190 km of shoreline.. The long and varied Sligo coastline contains a wide range of coastal habitats from cliffs to estuaries, mudflats, machair, sandy beaches and offshore

¹ <http://www.wetlandsurveysireland.com/>

² NPWS Native Woodlands Survey 2003-2007 (updated 2011)

³ N. Foulkes 2008 [Microsoft Word - County Sligo Hedgerow Survey Report compressed.doc](#)

islands. Transitional and coastal waters are, in general of high and good status. Sligo Bay (Cumeen Strand/Drumcliff Bay SAC) is a large coastal site extending from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the northeast. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The dominant habitats on the site are estuaries and intertidal sand and mud flats. Sligo Harbour receives the waters of the Garavogue River, which flows from Lough Gill, while Drumcliff Bay receives the Drumcliff River which flows from Glencar Lough. At low tide extensive areas of intertidal flats are exposed in both of these sheltered estuarine bays. The intertidal flats support a diverse macrofauna, with invertebrate species such as lugworm (*Arenicola marina*), common cockle (*Cerastoderma edule*), sand mason worm (*Lanice conchilega*), Baltic tellin (*Macoma balthica*), spire shell (*Hydrobia ulvae*) and common mussel (*Mytilus edulis*) being frequent. Of particular note is the presence of the eelgrasses *Zostera noltii* and *Z. angustifolia* beds in both bays. Areas of saltmarsh fringe both bays in places. Sand dune habitats are rare and threatened in Europe and three types are found in this site - embryonic dunes, Marram (*Ammophila arenaria*) dunes and fixed dunes.

4.3.5 Protected species and habitats outside protected sites

Habitat mapping, bat surveys and tree surveys have helped to identify habitats and species which occur outside of designated sites, but which are protected under European and National legislation. These include cladium fens, turloughs and other wetlands, oak-ash-hazel woodland, and riparian woodland, among others. These were also used to inform the assessment.

County Sligo hosts several rare, protected and/or threatened plant and animal species. Many of these are listed in Annex II of the EU Habitats Directive and EU Birds Directive including: Otter (*Lutra lutra*), Irish Hare (*Lepidus timidus hibernicus*), Red Deer (*Cervus elaphus*), Badger (*Meles meles*), and Atlantic salmon (*Salmo salar*). Other species are protected under Annex V of the former directive (animal and plant species whose taking in the wild and exploitation may be subject to management measures) and include *Rana temporaria* and *Phoca vitulina* while Annex IV species (animal and plant species in need of strict protection) include *Lutra lutra* and *Najas flexilis*.

The vulnerable status of other species is highlighted by their inclusion and classification in the Irish Red Data Book, which utilises IUCN categories with the principal aim of identifying those species most in need of conservation interventions. Species recorded in Sligo and their current Irish status includes Atlantic Salmon *Salmo salar* (vulnerable), and Common frog *Rana temporaria* (least concern).

The Wildlife Acts, 1976 and 2000 are to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims. It includes a diverse range of wild birds, land and marine mammals and amphibians. Protected plants are those that are legally protected under the Flora Protection Order, 2015.

4.3.6 Invasive species

The EU adopted “Regulations on the prevention and management of the introduction and spread of invasive non-native species” (2013/0307(COD)) came into force on the 1st of January 2015. This regulation seeks to address the problem of invasive species in a comprehensive manner so as to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human

health or economic impacts that these species can have. The Regulation foresees three types of interventions; prevention, early detection and rapid eradication, and management. Some species of aquatic and terrestrial invasive flora and fauna which specifically pertain to Sligo include; *Gunnera tinctoria* (giant rhubarb), *Gunnera manicata* (Brazilian giant rhubarb), *Lagarosiphon major* (African curly waterweed), *Centranthus ruber* (red valerian), *Fallopia japonica* (Japanese knotweed), *Rhododendron ponticum* (rhododendron), *Heracleum mantegazzianum* (giant hogweed), *Neovison vison* (American mink), *Corbicula fluminea* (Asian river clam),), *Dreissena polymorpha* (zebra mussel).

4.3.7 Key Biodiversity Flora and Fauna Issues relating to the Climate Action Plan

- Focus is being put on predicting how a changing climate will impact on some of our most threatened species, for example species at the range limits. Combined with change landuse patterns and activities most recently research (2023¹) record a decline in range and abundance or both of native plant species with native grassland species suffering the greatest decline. Lakes and wetlands have also been affected; some lakes are now dominated by the few aquatic plants favoured by nutrient enrichment, such as the introduced Nuttall's Pondweed. Many peatbogs have been planted with conifers or converted to agriculture, excluding the native bog plants such as heathers and sundew. Peatland habitats are important for carbon storage, and their restoration is essential as part of our efforts to combat climate change. There is evidence that climate change may have affected the Irish flora by helping some southern species to spread northwards,
- In contrast, the overwhelming majority (80%) of species introduced into Ireland since 1500 have increased. Most of these non-native species are benign but some, such as Himalayan Balsam and Rhododendron, have become invasive, with a negative impact on the native flora.
- Alternative energy options are being explored in the County. A common concern in relation to wind energy developments relates to impacts on peat soils and hydrogeology, impacts on bird species, and habitat disturbance and in particular the effects on the freshwater pearl mussel as an Annex species.
- In County Sligo one of the most prevalent impacts of climate change in recent years has been the increase in flood events. Management of flood-related issues is therefore of critical importance to the future sustainable development of the county.
- Coastal erosion is another prevalent impact of climate change in the county. There is firm evidence that rising sea-levels and increasing storm frequency and wave energy can increase the rate of erosion and the incidence of storm and flood-related events (e.g. land-ward incursion, wave damage, flooding). Over a period of decades, this will inevitably lead to loss or modification of some coastal habitats and interference with human use of the coastal zone.
- Of the 94 identified ecological processes², across terrestrial, marine and freshwater ecosystems, that underpin ecosystem functioning and support services to people, 82% showed evidence of impact from climate change The observed and projected climate change impacts on Ireland's biodiversity can be categorised into four broad categories:
 - a) Changes in phenology (the timing of lifecycle events);
 - b) Changes in the geographical range of species;
 - c) Increased degradation of habitats and changes in ecosystem processes;
 - d) Increased occurrence of invasive species;

Previous extreme weather events that have impacted on biodiversity include the extended cold spell of 2010 which led to Wintering Wildfowl Starving and Birds Freezing in Roosts on

¹ Botanical society of Britain and Ireland Plant Atlas 2020. [BSBI-Plant-Atlas-2020-press-release-Ireland-FINAL.pdf](#)

² Biodiversity Climate change sectoral adaptation plan NPWS 2019

Shannon and Little Brosna callows. Exceptionally dry summer of 2018 resulted in numerous (50 estimated) large and smaller fires on upland and hill areas¹.

4.3.8 SEA recommendations:

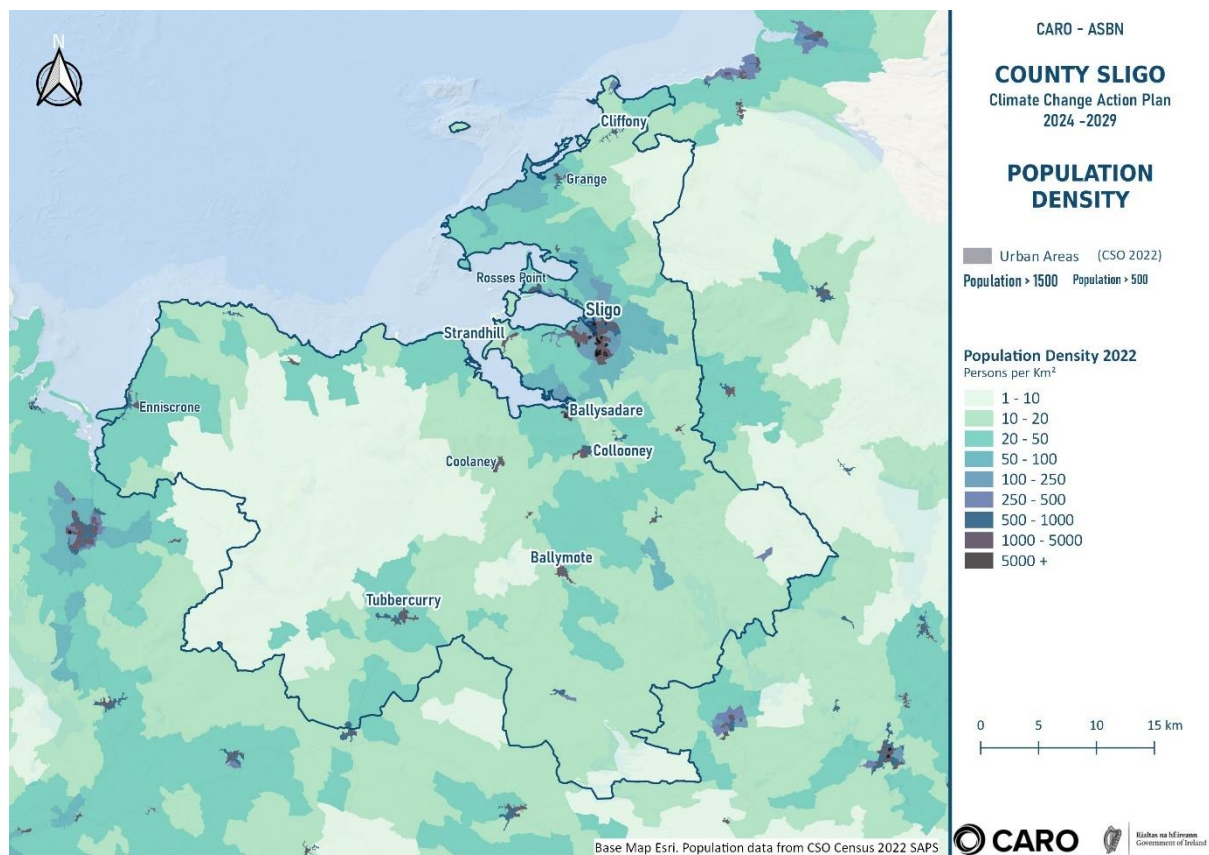
- Clear and measurable actions to address nature based solutions to support co benefits and ecologically driven responses to interventions around climate change impacts, mitigation and adaptation.
- Actions to address and respond to invasive species.
- Creating space for nature at landscape scale to facilitate mobile species.
- Research into interactions between climate change on soil, water, air and biodiversity.

4.4 Population and Human Health

In the 2022 Census, the total population of County Sligo was identified as being of 70,198 persons, an increase in total population in the County by c. 7% (c. 4,663 persons) since the previous census. The NPF Implementation Roadmap provides a transitional set of population projections to inform city and county development plans for the periods to 2026 and to 2031. The population growth projections for County Sligo indicate population growth up to 71,500 - 72,500 persons by 2026 and up to 74,000 - 75,500 persons by 2031.

Sligo Town is the County’s main urban centre, which provides employment, education, healthcare and other services to people living in its large hinterland, within and beyond the County boundaries. It is the designated Regional Growth Centre of the North-West. Approximately 20,000 persons live in Sligo Town. **Figure 4.6** presents the population density at plan level based on the 2022 Census data.

FIGURE 4-6 POPULATION DENSITY



1

4.4.1 Human Health

In 2022, 83% of people in Sligo stated that their health was good or very good compared with 86% in 2016. This is a similar trend to the national figures, which showed a 4% decrease in the good/very good categories, from 87% to 83%. (Census 2022).

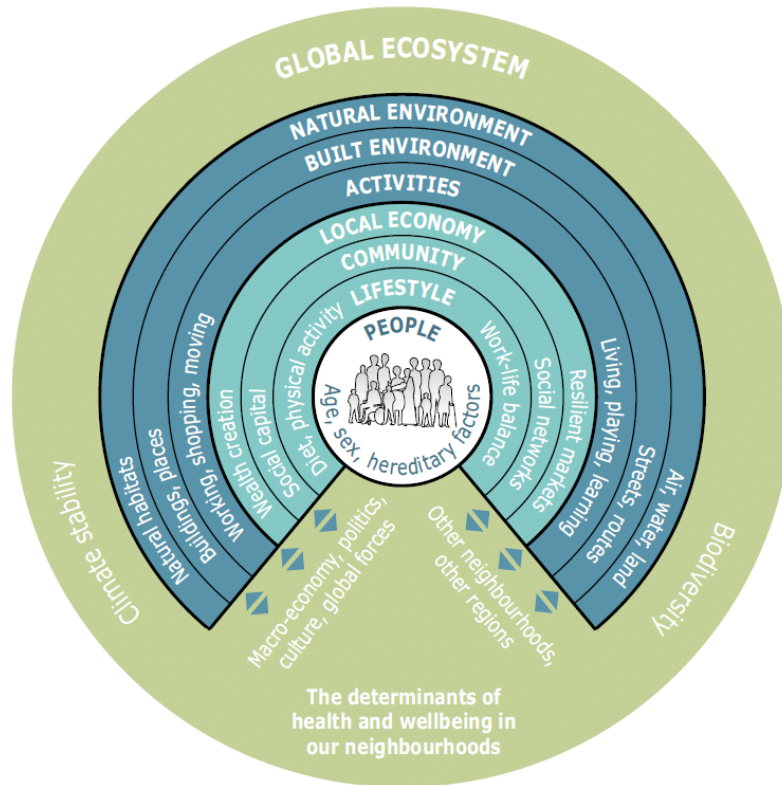
Impacts can arise on people's health and quality of life from a range of environmental factors, often through a combination of environmental impacts such as landuse, water quality, air quality, noise and transport patterns. Many of these may be exacerbated from climate change effects and impacts. The exposure to contaminants or pollutants can have serious implications for human health. Potential impacts on population and human health include inadequate water and wastewater and waste infrastructure, contamination of soils, excessive noise, flooding and poor air quality in areas where there are large volumes of traffic. The Institute of Public Health states:

'Where people live affects their health. There are a number of elements of the living environment that influence health including the built environment, travel choices and the communities in which people live. The design, maintenance and location of buildings influence health. Similarly, public spaces and transport networks can facilitate health by providing opportunities for physical activity, social interaction and access to social goods'.

Disadvantaged people are more likely to live in poor quality built environments and have limited access to transport and local amenities supporting healthy choices. This has further implications in regard to climate change and adaptation and mitigation to climate change including transport options, green infrastructure, energy provision and efficiencies and air quality emissions. Poor air quality is a major health risk, causing lung diseases, cardiovascular diseases, and cancer. Health implications of poor air quality from transport impacts the lungs, liver & spleen¹Children, the elderly and citizens suffering from asthma and respiratory conditions are most affected. As well as negative effects on health, air pollution has considerable economic impacts; cutting short lives, increasing medical costs, and reducing productivity through lost working days. Other environmental resources interact with human health and include material assets (wastewater and water services, energy, transport) , and water quality as well as access to green and blue space. **Figure 4.7** below identifies key factors that contribute to human health.

¹ Life Emerald 2023.

FIGURE 4-7 THE DETERMINANTS OF HEALTH AND WELL-BEING IN OUR NEIGHBOURHOODS¹



The County Sligo Climate Change Adaptation Strategy 2019-2024 identified the following effects associated with climate change at county level.

- Increased temperatures with impacts on human wellbeing, including heat stress and expanded vectors for mosquito-borne and other diseases.
- Ocean warming and acidification, with impacts on the health of our marine ecosystems, including our fisheries resources.

4.4.2 Key Population and Human Health Issues relating to the Climate Action Plan

- Climate² change can influence health through altering exposure to stressors such as extreme weather events; vector-, food- and waterborne infectious diseases; changes in the quality and safety of air, food, and water; and stresses to mental health and wellbeing.
- Exposures that result from climate change can be categorised as exposures with direct health impacts (e.g. storm, drought, flood, heat wave, temperature change, wildfires) or exposures with indirect health impacts (e.g. water quality, air quality, land use change, ecological change).
- The extent to which exposures which result from climate change impacts on health will be influenced by mediating factors. These include: individual or social factors such as demographics, socio-economics, health status, access to care, conflict. environmental factors for example geography, baseline weather, air and water quality, vegetation. institutional capacity such as primary health care, warning systems.

¹ SOURCE: HUMAN ECOLOGY MODEL OF A SETTLEMENT, BARTON AND GRANT, 2006

² Health Impacts of Climate Change and the Health Benefits of Climate Change Action: A Review of the Literature A Department of Health Research Paper, 2019.

- The potential climate change impacts on health are wide ranging such as deaths, injuries, respiratory disease, heat stroke, poisoning, water-borne diseases, infectious diseases, under nutrition, mental illness. These can include direct impacts (eg drowning), vector borne and other infectious diseases such as Lyme disease, impacts arising from air quality in terms of respiratory diseases, impacts to infrastructure with accompanying health impacts such as contaminated water, and water services.
- Health gains can occur from key climate change actions (“co-benefits”) such as: increasing consumption of diets with low greenhouse gas emissions and improving agriculture and good waste practices. Reducing co-pollutants from household solid fuel combustion, better lighting and application of passive design principles. Reducing greenhouse gases and associated co-pollutants from industrial sources. Increasing energy efficiency, reducing demand for fossil fuels and increasing demand renewable energy. Increasing green areas in urban spaces. Increasing active travel, modifications to public transport and to the built environment.
- EPA (2023) research¹ identified that people in Ireland feel that ‘others’ - such as future generations or people far away - are more threatened by climate change than themselves in the here and now. This means that many people underestimate the immediate risks and already-occurring effects of climate change here in Ireland. The youngest adults (18-24 years) consistently exhibit significantly higher levels of concern, with young women most concerned about climate change. People in Ireland support climate change policies. Where opposition to climate policies arise, it appears to be driven by practical concerns, rather than by scepticism or suspicion of the science of climate change. 79% of respondents in County Sligo were worried about climate change, this represents an estimated 39,188 out of a population of 49,574 adults.

4.4.3 SEA Recommendations

- Actions to support community awareness, engagement and ownership of climate change impacts, mitigation and adaptation.
- Enhanced placemaking through nature based solutions as an adaptive measures and support for active travel and modal shift.
- Support for energy efficiency in the built environment and circular economy.
- Research and support on appropriate landuse activities in the appropriate environment.
- Key focus on groups and demographics more vulnerable to impacts of climate change and support in terms of addressing fuel poverty, access to local food and public transport.
- Investigate and promote the potential and pivotal role creativity can play in addressing the challenges presented by climate action. Just Transition mechanisms and access to support for same.

4.5 Geology and Soils

The oldest rocks in the Sligo area are exposed in the northeast Ox Mountains and on Rosses point. The dominant rock types in Sligo belong to the Carboniferous System (355 – 310 million years). see **Figure 4.8** for bedrock geology, and geological heritage sites, of which 25 were identified by the GSI and include:

- Meenamore;
- Diarmuid and Gráinne’s Cave;
- King’s Mountain Rift;

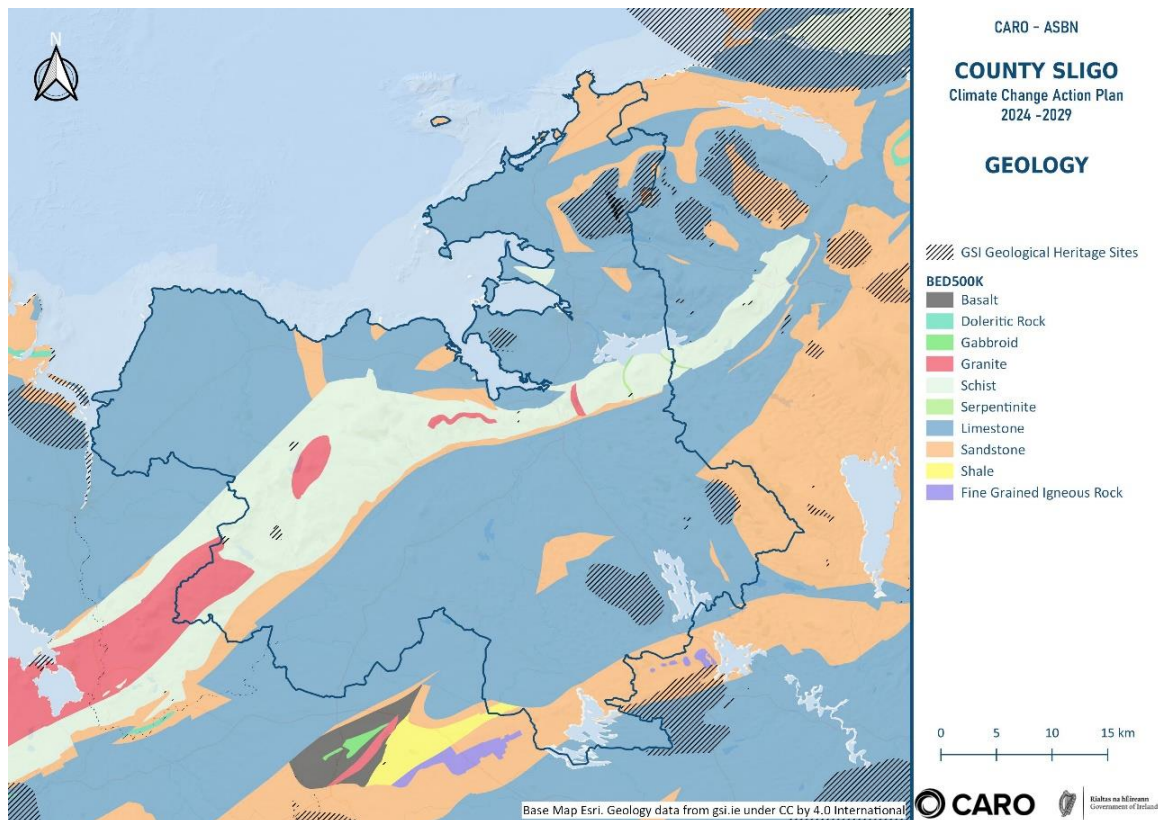
¹ Climate Change in the Irish Mind - Support for Climate Policies’and Climate Change in the Irish Mind - Climate Risk Perceptions. <https://www.epa.ie/news-releases/news-releases-2023/people-in-ireland-support-climate-policies-with-some-opposition-specific-to-local-concerns-and-issues.php>

- Glencarbury Barite Mine;
- Aughris Head;
- Streedagh Point;
- Serpent Rock;
- Mullaghmore Head;
- Bricklieves/Keshcorran;
- Knocknarea;
- Split Rock or Giant’s Rock;
- Sliswood Gap, Ox Mountains; ☐ Glen;
- Scalpnacapaill;
- Zion Hill;
- The Gap (NW)

Peat soils are the most dominant soil type in County Sligo. Peatlands are found at many locations across the County and extensively in the western, south-western and north-western parts of the Plan area. Other soil types include Brown podzolics (occurring mainly in the north-east and central parts of the County); Brown earths (occurring mainly in the central and coastal areas throughout the County); Alluvial soils⁴¹ (occurring mainly along the rivers, lakes and estuaries within the County).

The County has numerous locations with a history of landslide events. Many of these events are associated with the upland and peatland areas in the County. The GSI have identified that most of the County has having mainly low levels of landslide susceptibility with some areas of moderately low, moderately high and high levels of landslide susceptibility associated mainly with peatlands and coastal and upland areas.

FIGURE 4-8 BEDROCK GEOLOGY



The soils overlying the west of Sligo generally consist of various peats: blanket peats which are found in the uplands; with peaty gleys and peaty podzols found on lower lying lands support extensive agriculture in places. The areas of blanket peat are internationally important - supporting a large variety of rare flora and fauna - and large areas are protected by a number of ecological designations. Underlying areas of the county's northern and western coastal edges, acid brown earths, podzols and gleys are found while the east of the county demonstrates a greater diversity of soils, including large areas of grey brown podzolics, brown podzolics, podzols, shallow brown earths and rendzinas. Peat bogs also cover significant areas in particular north and north-east of Castlebar and around Kiltimagh. Soils have a number of functions including supporting plant life and life within the soil, biogeochemical cycling of elements, energy cycles, water storage and exchange and ecosystem productivity. Soil formation occurs over very long timescales, and can be considered a non-renewable resource.

“Soil provides critical ecosystem and environmental services (Carilli, 2014; Agrilinks, 2019; Renforth and Campbell, 2021) that maintain key components of global climate and biodiversity (Hector et al., 1999; Kleijn and Sutherland, 2003; Gessner et al., 2010; Isbell et al., 2011; Doula and Sarris, 2016). Soil directly impacts biomass production, habitat diversity, biodiversity and the storage of many elements (e.g. carbon, nitrogen) and substances (e.g. water, organic matter; EC, 2017). From a socioeconomic perspective, soil underpins the security of the global food chain for people and animals, the production of fibre, environments that promote health and well-being (Bevik et al., 2020), and a potential nature-based solution to help mitigate the impacts of flooding and climate change. Soils are central to the discussion of topical issues such as carbon sequestration, nutrient availability, pollution, remediation and equitable economic development. Soil quality (the characteristics and dynamics of soil physical properties, chemistry and biology; Wander et al., 2019) and soil health (the functional ability of soil to provide ecosystem services and management outcomes; Wander et al., 2019) should therefore be key elements of any policy framework relating to soils and soil management.¹”

¹ A Signpost for Soil Policy in Ireland MUCKISOILS (Mapping Understanding and Current Knowledge of Irish Soils) (2021-NE-1029) EPA Research Evidence Synthesis Report UCC. Page 1.

Figures 4.9 and 4.10 present principal soil types at plan level, as well as the mapping of high value nature farmland.

FIGURE 4-9 SOIL TYPE

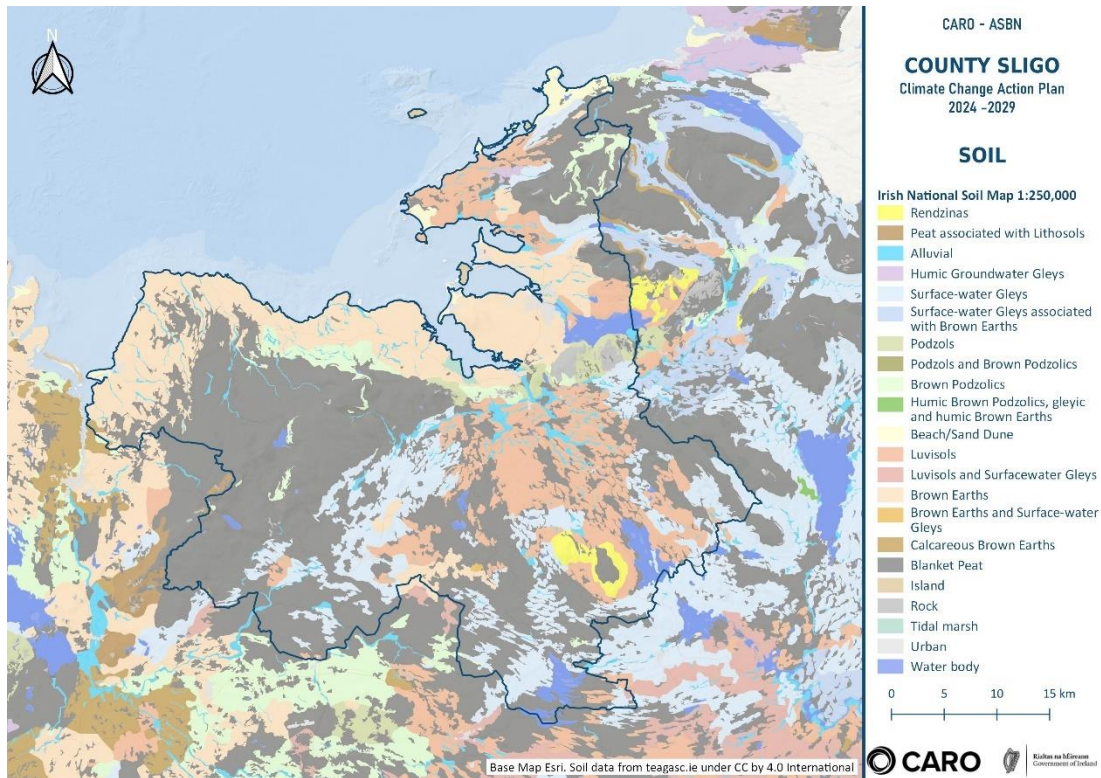
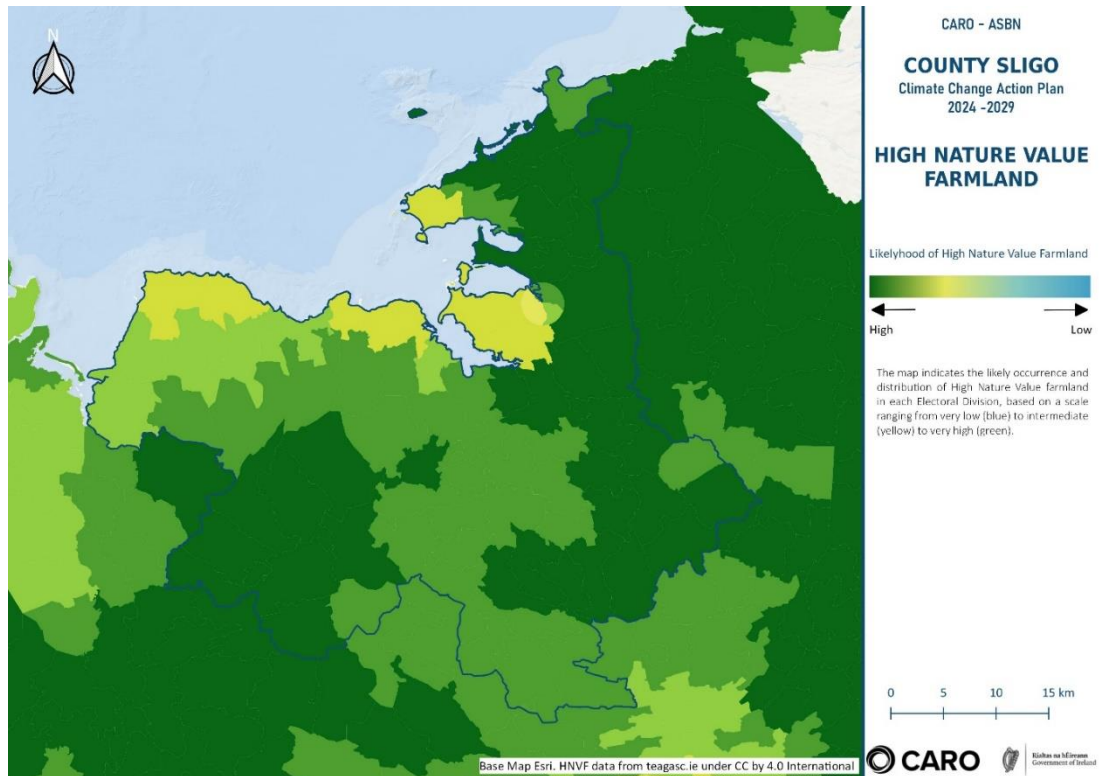
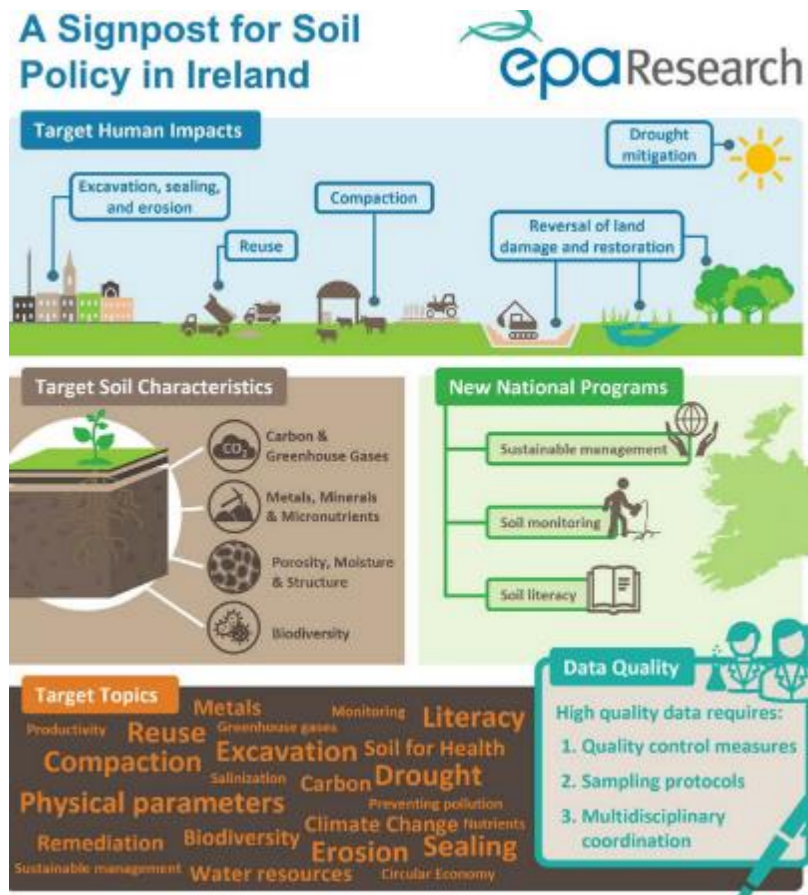


FIGURE 4-10 HIGH VALUE NATURE FARMLAND



EPA research has identified significant research gaps relating to soil in Ireland in terms of themes identified under the EU Soil Strategy for 2030 and this research has identified a signpost for soil policy in Ireland, presented below in **Figure 4.11** which has particular relevant to climate action.

FIGURE 4-11 SIGNPOST FOR SOIL POLICY IN IRELAND



4.5.1 Key Geology and Soil Issues relating to the Climate Action Plan

Significant changes to soil condition can be brought about by the impacts of climate change including changes in air temperature, precipitation and extreme weather events – increased occurrences of summer droughts and increased winter rainfall. The potential impacts of these weather changes are likely to be experienced most significantly in relation to agriculture, peatland areas and forestry areas as well as increasing the potential for flood risk. Drier summers could also require necessary infrastructural investment to store winter rain and the drying out of soils in response to climate change could result in deterioration of soil quality. Increased rainfall could cause increase soil erosion and run off. Other significant issues include:

- Maintaining and enhancing soil function and its carbon storage role where possible, recognising the essential role soils, and particularly functioning peatlands can contribute to climate change mitigation and adaptation.
- Addressing extent of soil sealing, increased surface run off and variable permeability of lands in the plan area.
- Retention and creation of areas of greenfield in terms of open space, green infrastructure, permeability and biodiversity considerations.
- Because of the complex interrelationship between water, air and soil, declining soil quality can contribute to negative or declining water or air quality and function.
- Significant changes to soil condition can be brought about by the impacts of climate change including changes in air temperature, precipitation and extreme weather events - increased occurrence of summer droughts and increased winter rainfall. The drying out of soils in

response to climate change could result in deterioration of soil quality. In wetter western areas, within which the Plan area lies, increased rainfall could cause increased soil erosion. Generally, a combination of dry summers and wet winters could also result in subsidence and soil heave.

- High nature value farming areas, and key agricultural lands should be considered. Where natural resources are required to support development, these should be carried out as efficiently as possible.

4.5.2 SEA Recommendations

- Supporting research and actions relating to carbon sequestration in soil
- Nature based solutions to provide co benefits including to retention and enhancement of soil quality and soil diversity
- Reuse of brownfield lands and support for circular economy through adaptive reuse of buildings and waste streams
- Support for sustainable landuse and in particular agricultural and forestry practices.

4.6 Water Resources including flood risk

The Water Framework Directive (WFD) requires the achievement of good status in all waters and that the status of water bodies does not deteriorate. The County is situated within the surface water catchments of: Erne; Sligo Bay and Drowse; Upper Shannon (26A53 and 26B54); and Moy and Killala Bay. The main waterbodies in the County include: Lough Gill; Lough Arrow; Lough Talt; Lough Gara; Easky Lough; Templehouse Lake; Owenmore River; Unshin River; River Moy; and Easky River.

The WFD status of the rivers and lakes within the area to which the Plan relates is classified as high, good and moderate however, sections of rivers and streams (including: Bunnanaddan Stream; Cartonkillerdoon; Douglas, Sligo; Garavogue; Grange, Sligo; Owenmore, Sligo; Tubbercurry Stream; Tubbercurry; and Gill) are identified as being of poor status, while the Templehouse Lake is identified as bad due to unsatisfactory ecological/biological and/or physio-chemical status. The status (2016-2021) of transitional and coastal waterbodies within and adjacent to the area to which the Plan relates ranges from moderate to high and good, including a number of unassigned waterbodies.

Catchments are shown in **Figure 4.12**. Surface water quality and water bodies at risk of not meeting WFD objectives are shown in **Figures 4.13 and 4.14**.

Agriculture, urban run off, urban wastewater, hydromorphological and anthropogenic pressures, extractive industry, forestry, domestic wastewater and invasive species are exerting significant pressures affecting WFD 'At Risk' waterbodies in Sligo.

FIGURE 4-12 WFD CATCHMENT

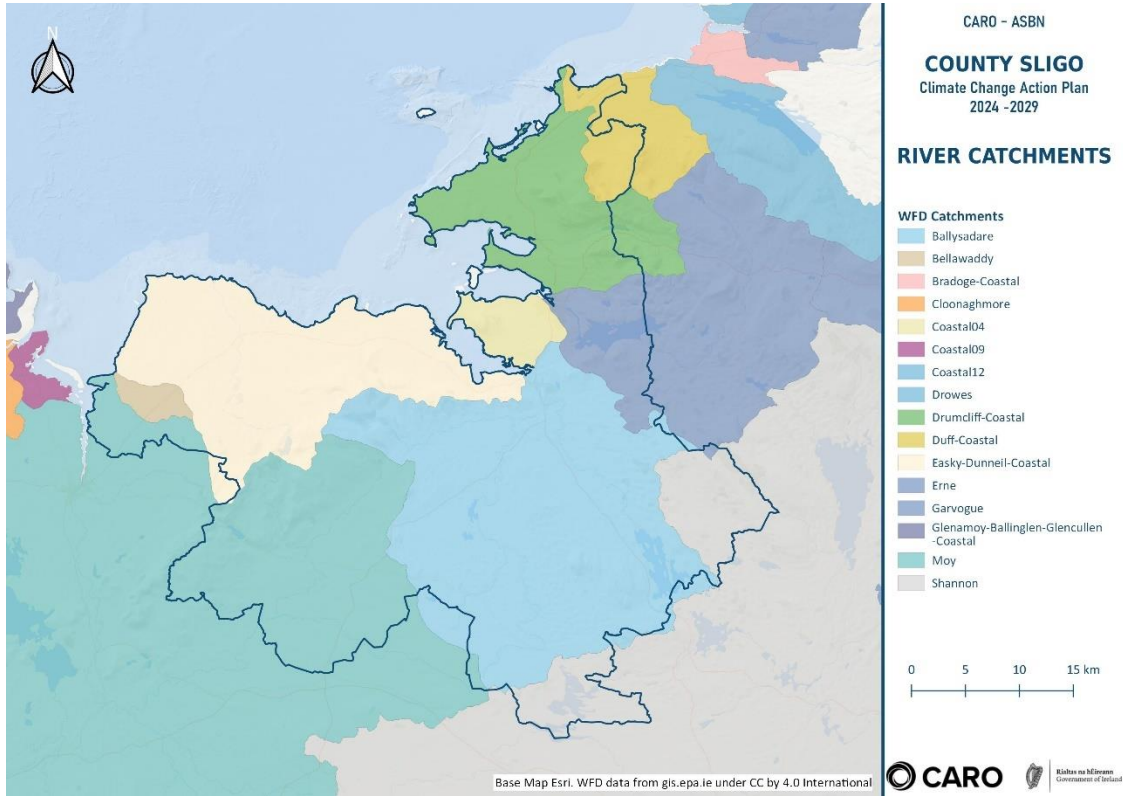


FIGURE 4-13 SURFACE WATER QUALITY

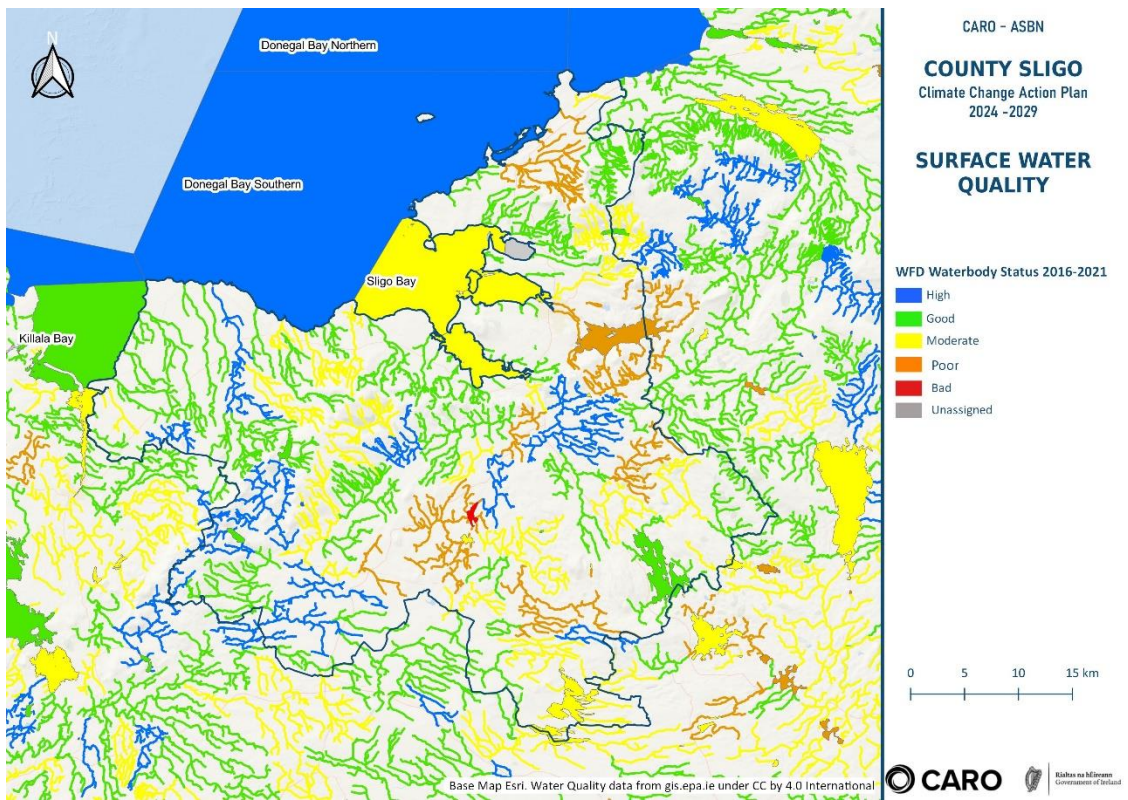
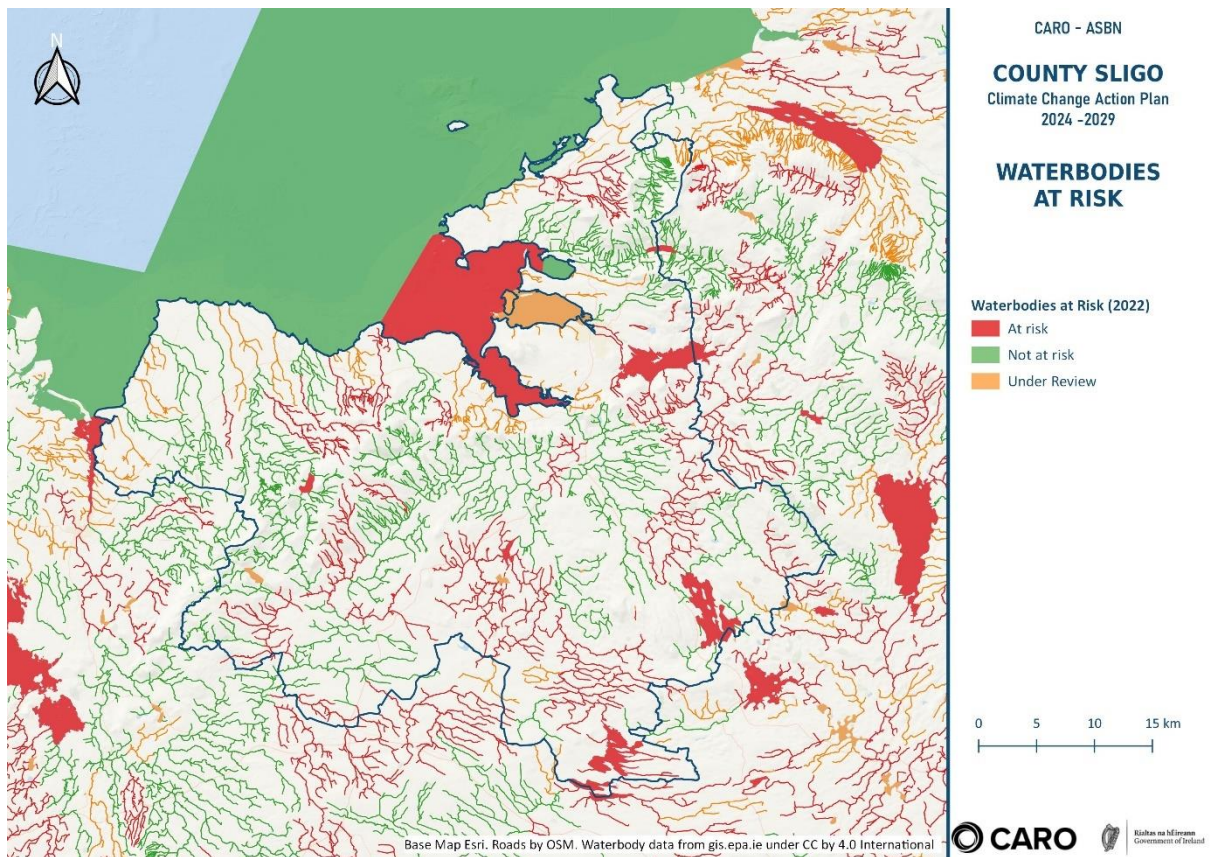


FIGURE 4-14 WATER BODIES AT RISK OF NOT MEETING WATER FRAMEWORK DIRECTIVE OBJECTIVES



4.6.1 Groundwater

Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD. Groundwater is important as a drinking water supply as well as the supply to surface waters. In addition, groundwater supplies surface waters. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil. The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality. The Geological Survey of Ireland (GSI) aquifer categories are based on their vulnerability to pollution, i.e. the ease at which it can enter the subsurface layers. The classification of extreme or high vulnerability means that the groundwater in these areas is very vulnerable to contamination due to hydrogeological and soil factors.

Surface and groundwater are inextricably linked therefore making it difficult to protect from contamination. The protection of groundwater from human activity is crucial as the resource is highly susceptible to contamination with long-term consequences for humans and the environment. Overall, the groundwater status within the County is primarily of good status.

4.6.2 Coastal and marine planning

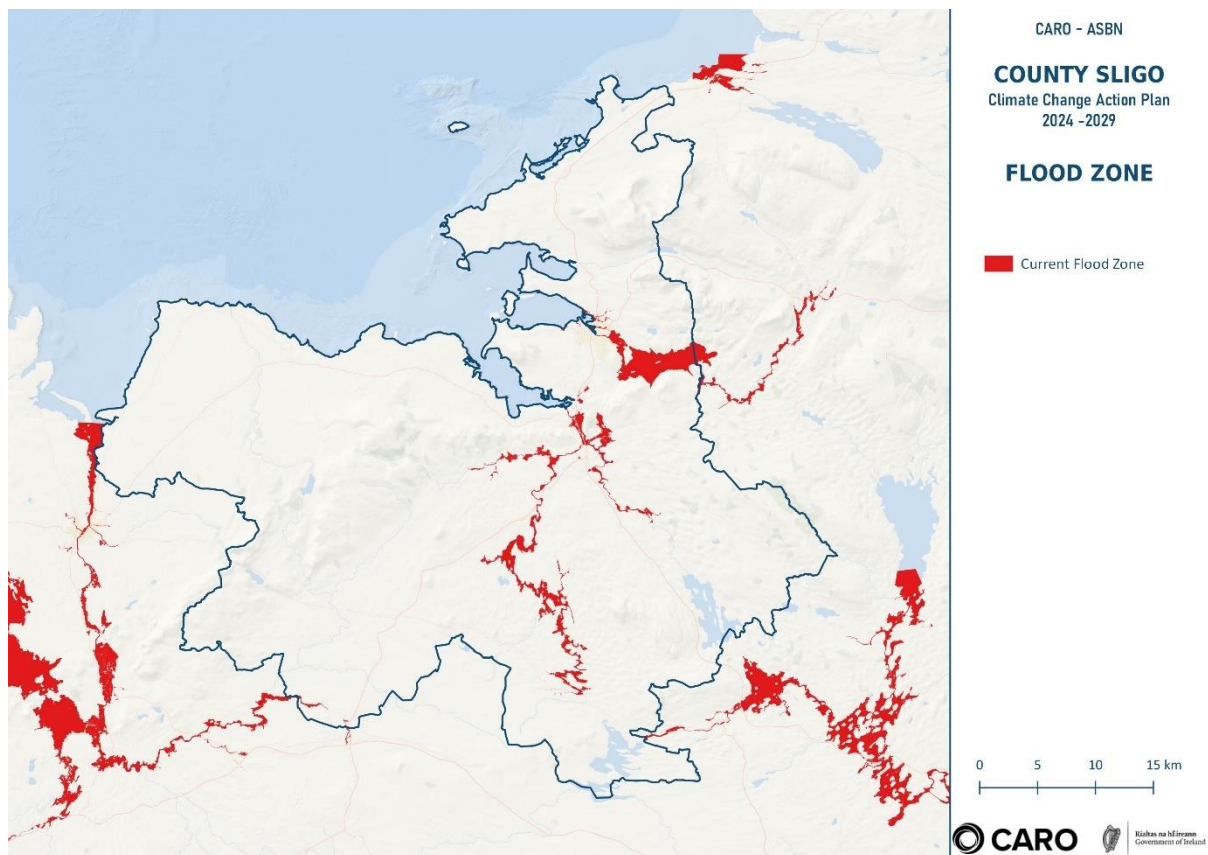
In 2019 the Department of Housing Planning and Local Government produced a Consultation Draft National Marine Planning Framework (NMPF). This is Ireland's first complete marine spatial plan document. It sets out a vision, objectives and policies to help direct decision-making in the maritime area using a plan-led approach. Following adoption of the NMPF in 2020, the Government

will be exploring opportunities for the second cycle of MSP that includes the potential for different parts of the maritime area. This will include considering the potential for plans nested within the overall NMPF, providing a higher level of policy detail related to marine management tailored to the needs of a particular area or activity.

4.6.3 Flooding

With climate change there are increased extreme weather events that contribute to flooding across a range of sources. Certain areas across the County are at risk from flooding from sources including groundwater, pluvial, fluvial and coastal. There is historic evidence of flooding in various locations across the County, including coastal areas and along the County's various rivers and streams. See Figure 4.15.

FIGURE 4-15 FLOOD ZONES



4.6.4 Key Water Issues related to the Climate Action Plan

The main pressures on water quality arise from a number of sources including climate change and landuse activities and these can interact to exacerbate existing pressures on water quality. An example of such impacts are shown below:

- High precipitation - Increased surface and sewer flooding (leading to mobilisation)
- Low precipitation - Low flows and water levels causing reduced dilution of pollutants
- High temperatures - Spread of / increased viability of pathogens
- High temperatures - Changes in species distribution and phenology, including native, non-native and invasive species
- High temperatures - Drying of peatland can result in a reduction of natural pollution attenuation and flood prevention, the leaching of ammonia, and peat slides (when followed by heavy precipitation)¹

1

Climate change poses risks to the delivery of water management objectives, but these risks depend on local catchment and water body conditions. Climate change affects the status of water bodies, and it affects the effectiveness of measures to manage the water environment and meet policy objectives. The future impact of climate change on the water environment and its management is uncertain. Impacts are dependent on changes in the duration of dry spells and frequency of ‘flushing’ events. The following risks are identified for water resources:

- Lower water levels and higher water temperature will reduce dissolved oxygen and lead to algal blooms and increased concentration of bacteria and other pollutants in the water.
- Increased precipitation increases the risk to groundwater quality from septic tank systems, agricultural, forestry and urban centre runoff.
- Saltwater intrusion on freshwater systems.
- River Basin Management plans will provide for more integrated management requirements for our water resources.
- Climate change threatens coastal areas, which are already stressed by human activity, pollution, invasive species and storms.
- Sea level rise threatens to erode and inundate coastal ecosystems and communities including unique ecosystems such as wetlands and machair (sand dunes).
- Warmer and more acidic oceans are likely to disrupt coastal and marine ecosystems on native species, algal blooms.
- Drier and warmer weather will see an increased in beach tourism and marine activities enhancing the blue economy
- Increase in fluvial, pluvial (urban storm water) and groundwater flood risk.
- Increasing risk to our coastal communities and assets.
- Threat of coastal squeeze of inter-tidal habitats where hard defenses exist.
- The development of flood forecasting systems in conjunction with community.

4.6.5 SEA Recommendations

- Landscape consideration of water through LAWPRO and catchment management
- Support for peatland restoration and nature based solutions through the catchment management to ‘slow the flow’ and increase overall resilience of the ecosystems.
- Research and assessment of risks and then supporting actions to achieving Water Framework Directive Objectives from climate change impacts.

4.7 Air Quality:

Poor air quality leads to more than 1300 premature deaths each year in Ireland. Ireland’s two main pollutants of concern are: Fine particulate matter (PM2.5), where the dominant source is residential solid fuel burning. Nitrogen dioxide (NO₂), where the dominant source is transport.

The Air Quality Index of health¹ is based on hourly monitoring data from sites around Ireland and is based on measurements of five air pollutants all of which can harm health. The five pollutants are:

- Ozone gas
- Nitrogen dioxide gas
- Sulphur dioxide gas
- PM2.5 particles and PM 10 particles.

Air quality and health is discussed under Section 4.4 Population and Human Health.

¹ <http://www.epa.ie/air/quality/>

4.7.1 Climate Factors

Ireland must invest in structural and behavioural change to enable the transition to a climate neutral, climate-resilient country. These changes include the rapid decarbonisation of energy and transport and the adoption of sustainable food production, management and consumption systems. In December 2022, the government published Climate Action Plan 2023 (CAP23). It is the first updated plan since the introduction of the Climate Action and Low Carbon Development (Amendment) Act 2021. CAP23 aims to keep Ireland’s emissions within its mandatory carbon budget and achieve the legally binding target of reducing emissions by 51% (from a 2018 baseline) by 2030.

Sectoral emissions ceilings refer to the total amount of greenhouse gas emissions that each sector of the economy is allowed to produce during a specific time period. In Ireland the sectoral emissions ceilings set out the maximum emissions that are permitted from each sector to ensure that Ireland remains within its carbon budgets. These sectors are:

- Electricity
- Transport
- Built Environment (Residential, Commercial & Public Sector)
- Industry & Other
- Agriculture
- Land Use, Land Use Change and Forestry (LULUCF)

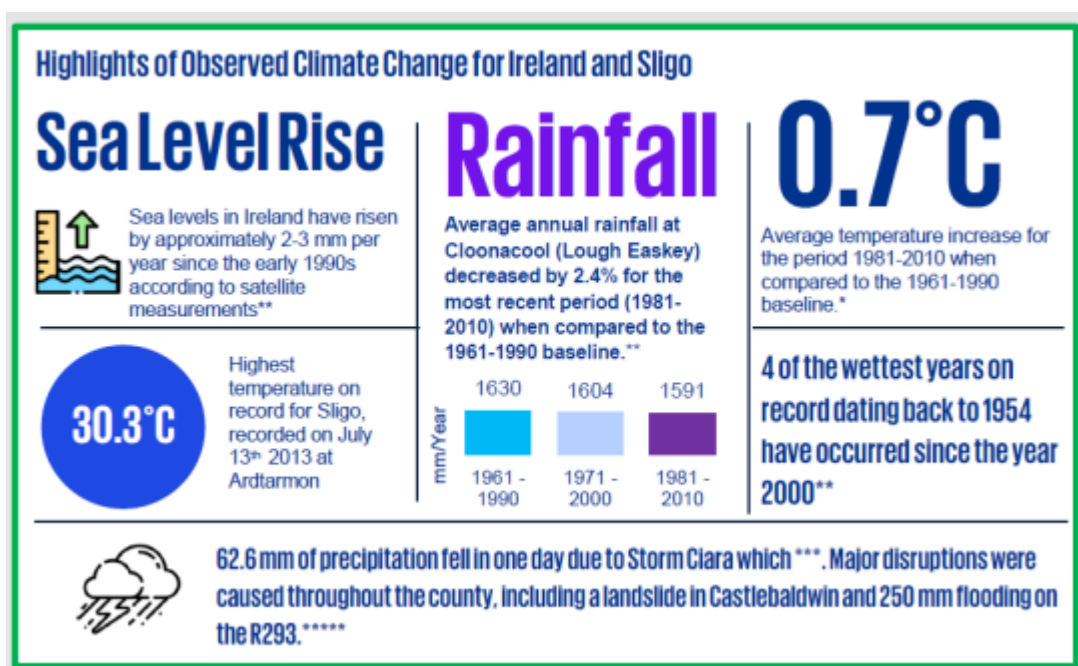
Table 4.1 provides a summary of Co. Sligo emissions in comparison to National emissions. GHG emissions for County Sligo in 2019 totalled 943ktCO₂e of the national total. As Sligo is a predominately rural county emissions from agriculture and land use, land use change and forestry (LULUCF) form a higher % of our county emissions than the national average while industrial, commercial and transport are lower than the national average. Sligo County Council’s own emissions account for 7 ktCO₂e, less than 1% of the county’s emissions.

TABLE 4-1 COUNTY SLIGO EMISSIONS, NATIONAL EMISSIONS AND AS % OF NATIONAL EMISSIONS

Emissions Category	County Sligo Emissions (ktCO₂e)	National Emissions¹ (ktCO₂e)
Residential	167 (17%)	9,552 (15%)
Commercial Services	53 (6%)	4,618 (7%)
Manufacturing	30 (3%)	6,737 (10%)
Industrial Processes	9 (1%)	2,267 (3%)
Transport	131 (14%)	12,196 (19%)
Waste	5 (1%)	991 (1%)
Agriculture	429 (45%)	22,134 (34%)
LULUCF	119 (13%)	6,657 (10%)
Total	943 (100%)	65,152 (100%)

Figure 4.16 presents the extreme climate events in County Sligo, from the CAP 2024.

FIGURE 4-16 EXTREME CLIMATE EVENTS IN CO SLIGO



4.7.2 Key Air Quality and Climate Issues related to the Climate Action Plan

These have been identified as cross cutting impacts across all the SEA topics scoped into the SEA ER and are presented throughout the document.

Climate change is impacting ecosystems through changes in mean conditions and in climate variability, coupled with other associated changes such as increased ocean acidification and atmospheric carbon dioxide concentrations. It also interacts with other pressures on ecosystems, including degradation, defaunation and fragmentation. At the same time, ecosystems can also assist in the mitigation of, and adaptation to, climate change.

4.7.3 SEA recommendations

Actions in the CAP should be cross cutting and encompass all the sectors for emission reductions:

- Electricity
- Transport
- Built Environment (Residential, Commercial & Public Sector)
- Industry & Other
- Agriculture
- Land Use, Land Use Change and Forestry (LULUCF)

A focus on nature based solutions, the opportunity to provide co benefits for other environmental topics and strong evidence based approach to solutions is recommended.

EPA data is clear that reaching the 2030 target requires implementation of policies that deliver emission reductions across all sectors in the short term. Current decarbonisation actions are being outpaced by increased energy demand across the economy and dependence on fossil fuels for energy generation. A continued lack of delivery of large-scale practical actions to decarbonise activities in all sectors will see an exceedance of the first two carbon budgets.

4.8 Material Assets:

Access to an efficient transport network contributes to opportunities for all sectors of the population to access services, facilities and social networks that are necessary to meet daily needs. Ease of accessibility enhances quality of life, promotes social inclusion, presents opportunities, and promotes human health through expansion of cycle and walking infrastructure.

4.8.1 Transport

As one of the key sectors for emission reduction, actions are urgently needed to promote other forms. There are a total of 2800 km of roads in Co. Sligo, with this being made up of: National Primary – 106km, National Secondary – 47.5km, Regional Roads – 237km, Local Roads – 2410km. Over 70% of people relied on private cars to get to work/school, while only around 1.5% of people used public transport, but nearly 10% walked or cycled. There are several harbours/piers in the county, but only Sligo Harbour receives any significant commercial activity. Others such as Mullaghmore, Raghly, Aughris, and Enniscrone cater to small private fishing & leisure craft. Sligo is also served by MacDiarmada Train Station in Sligo Town, which is linked to Connolly Station in Dublin.

4.8.2 Water services

The Urban Wastewater Treatment Directive (91/271/EEC, amended by Directive 98/15/EEC) aims to protect the environment from the adverse effects of wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. Irish Water has provided information on settlements in the County with wastewater treatment facilities and capacity on same. Uisce Éireann 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 terms of Population Equivalent (PE) in areas serviced by a public wastewater treatment plant. Spare treatment capacity is identified as being available in all of these settlements except for: Castlebaldwin WWTP; Rosses Point WWTP; Drumcliffe WWTP (limited capacity); and Easky WWTP (limited capacity). The highest levels of headroom (PE) are available at Sligo Town WWTP (22,972 PE); Ballysadare WWTP (2,814 PE); and Dromore West WWTP (2,237 PE).

There are two main sources of water supplying the Sligo and Environs area, namely Kilsellagh Reservoir and Lough Gill. The Sligo and Environs Water Supply Scheme is designed to provide for the domestic, agricultural and industrial water requirements of Sligo Town and its outlying regions, such as Ballincar, Rosses Point, Strandhill, Collooney and Ballintogher.

Ballysadare, Lough Talt Regional Water Supply covers the area of County Sligo east of the Ox Mountains. It supplies to Ballymote, Bellaghy, Coolaney, Ballinacarrow, Aclare, Banada, Cloonacool, Curry and Tobercurry. Currently there is a water treatment plant at Kilsellagh and two plants treating water from Lough Gill – Cairns Hill and Foxes Den. Currently there are eight schemes supplying public water throughout Sligo comprising: Carns Hill Water Supply Scheme; Foxes Den Water Supply Scheme; Kilsellagh Water Supply Scheme; Lough Easky Regional Scheme; Lough Talt Regional Scheme; North Sligo Regional Scheme; South Sligo Regional Scheme; Riverstown Regional Scheme; and Killaraght Regional Scheme.

4.8.3 Energy

In County Sligo, the principal renewable energy sources are wind and micro- renewables (such as small scale hydro plants and domestic solar panels). There are opportunities for other sources, such as green hydrogen and biomethane. In addition to energy relating to transport and agriculture, the energy in residential and other buildings is a key consideration and now supported through a national scheme. Improving existing energy efficiency in housing stock will contribute to lower GHG emissions from carbon sources, as well as reduce fuel poverty and improve air quality.

4.8.4 Waste

The waste sector was responsible for 1.5% of Ireland's Greenhouse Gas emissions in 2018. The waste sector includes emission estimates from solid waste disposal, composting, waste incineration, open burning of waste and wastewater treatment and discharge. The largest of these sources is solid waste

disposal on land (landfills) where CH₄ is the gas concerned. The Climate Action Plan includes specific targets combatting waste including reductions in household waste, landfill reliance, plastics and food waste. It also sets out ambitious recycling targets for municipal, plastic and packaging waste. The Circular economy relates to a transition from carbon heavy, linear resource use. Circular economy systems:

- keep the added value in products for as long as possible and aim to eliminate waste.
- keep resources within the economy when a product has reached the end of its life, so that they can be productively used again and again and hence create further value.

A recent OECD study found that Ireland has a circular material use rate of 1.8 per cent, relative to an EU average of 12.8%. Systemic change is needed across all economic sectors to shift the focus to designing out and reducing waste and promoting reuse and recycling.

Food waste is a serious issue and in Ireland, approximately 800,000 tonnes of food waste is generated a year and the government has made a commitment under UN SDG 12.3 to reduce food waste by half by 2030. Food waste is also a source of Greenhouse Gas Emissions. The only way to reduce food waste is through its prevention, so the focus in the food use hierarchy must be on food waste prevention. The national food waste prevention programme sits within the EPA's Circular Economy Programme. Stop Food Waste is the consumer-facing national food waste prevention campaign. In relation to food waste prevention in the food supply chain, a revised Food Waste Charter launched in June 2023, with a call to action to businesses across the food supply chain to sign up to this voluntary agreement and pledge to measure, take target-based actions and report on food waste¹.

4.8.5 Key Material Asset issues relating to the Climate Action Plan

Flood events and possible consequent risk of subsidence may have a significant impact on critical infrastructure such as roads, rail, electricity, water and communications. This in turn would have a potential impact on productivity, economic confidence and general social wellbeing. Hotter summers could also place an additional stress on key infrastructure.

- High temperatures can result in Hot-weather-related changes in demand (e.g. higher daily and peak demand). Higher precipitation levels can result in more frequent water/wastewater asset flooding, asset loss and potential for environmental pollution as well as increased drawdown in the autumn/winter for flood capacity, leading to resource issues in the following spring/summer.
- Low precipitation - Reduced availability of water resources (surface water and groundwater sources)
- Increased storminess Business continuity impacts/ interruptions
- More frequent water/wastewater asset flooding, asset loss and potential for environmental pollution. Interruption to business continuity².
- Actions relating to circular economy, food waste and local food production.

4.8.6 SEA Recommendations

- Identify material assets most at risk from impacts of climate change.
- Increase resilience to effects of climate change on critical infrastructure.
- Energy transition and decarbonise the plan area to help meet targets.
- Energy efficiency measures and the decarbonising zone.
- Support for nature based solutions to avoid over engineering responses to impacts on material assets.

¹ EPA submission Re: Call for Expert Evidence - Climate Action Plan 2024 (EPAC-1023)

² Water Quality and Water Services Infrastructure Climate Change Sectoral Adaptation Plan

4.9 Cultural Heritage:

County Sligo has a rich archaeological heritage. Tentative List is an inventory of natural and cultural heritage sites, which may have potential to demonstrate Outstanding Universal Value and therefore considered suitable for nomination to the UNESCO World Heritage Sites. Irish heritage sites currently on Tentative List⁸⁹ and within the Plan area include “The Passage Tomb Landscape (Carrowmore and Carrowkeel in County Sligo)”.

To date there has been over 6,500 known Recorded Monuments identified in County Sligo including many monuments in State Care. Each of the Recorded Monuments is encircled by a Zone of Archaeological Notification. Clusters of archaeological heritage are concentrated within and surrounding towns and villages and in lowland rural areas.

Sligo’s archaeological heritage includes monuments from the Mesolithic Period (7,000 BC) to the end of the Medieval Period (1,700 AD). These monuments range from megalithic tombs, churches, castles, linear earthwork and ringforts and are found throughout the County. There are also approximately 1,200 industrial heritage sites across the County as identified in the Industrial Archaeology Survey of County Sligo (2005).

Lakes, rivers, estuaries, coastal and transitional waters within and surrounding the area to which the Plan relates, may contain many features and finds associated with maritime/riverine heritage such as shipwrecks, piers, quay walls, fords, stepping stones and associated archaeological objects and features

The architectural heritage of Sligo spans many centuries. This heritage reflects past lives and is an important record of the economic and social history of the county. Architectural heritage includes churches, courthouses, commercial and institutional buildings including banks and post offices, country houses, and also includes vernacular architecture. Within this range of building types are structures, streetscapes, village and town cores of such architectural heritage significance or special character that they are deemed worthy of protection either as individual elements which are listed on the Record of Protected Structures (RPS), as groups of buildings within Architectural Conservation Areas (ACAs) or as particular built heritage types that have been recorded as part of the unique identity of Sligo. County Sligo has a rich architectural heritage, over 700 of which are noted in the Record of Protected Structures (RPS) for County Sligo.

Historic designed landscapes relate to gardens, parkland, woodland, estates and public parks. By using both natural and built features such as trees, shrubs, lawns, ponds, watercourses, views/vistas, walled gardens, follies, farm outbuildings, gates and gate lodges, our ancestors created these compositions which are part of our architectural and horticultural heritage.

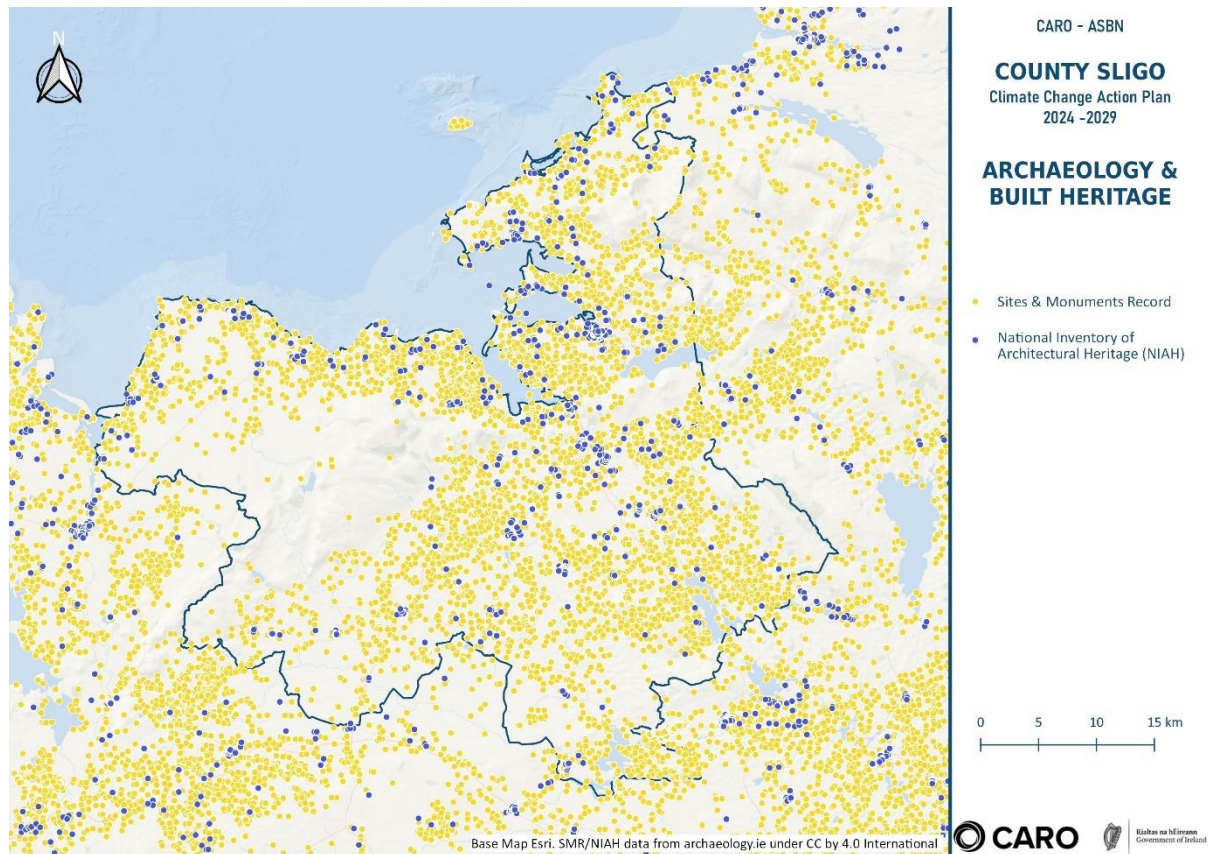
Industrial Heritage relates to sites, structures, mechanisms and artefacts associated with the industrial past, mainly of the 18th and 19th centuries and can extend further back to include archaeological sites. Examples of the industrial and maritime heritage of Sligo include structures associated with transportation such as railway stations and associated structures, historic bridges, lighthouses, coastguard stations, harbours, piers and quays. Architectural heritage related to transportation is also an important asset. Mill buildings and associated structures such as mill races, sluices and weirs also form part of this built heritage.

Vernacular built heritage forms a significant part of the built heritage of County Sligo, while many of these structures may not be listed on the Record of Protected Structures, their distinctive character contributes positively to the towns, villages and rural landscape of the county.

Figure 4.17 presents the sites and monuments record and the national inventory of architectural heritage data.

Finally local cultural features, both tangible and intangible are cumulatively very significant and contribute to sense of place. The Irish language and linguistic heritage is an intrinsic part of the cultural experience and life in the county.

FIGURE 4-17 ARCHAEOLOGICAL AND BUILT HERITAGE



4.9.1 Key Cultural Heritage issues relating to the Climate Action Plan

- The direct effects of climate change on heritage may be immediate or cumulative. Thus, damage from catastrophic events such as floods and storms are likely to increase at the same time as slow-onset environmental deterioration mechanisms. The way these impacts manifest will vary according to the sensitivity of the heritage and its exposure (Murphy and Ings, 2013). Exposure will alter with location and aspect, while sensitivity will be determined by the nature of the heritage resource (type, material) and its current condition.
- In addition, there will be indirect impacts related to societal responses to climate change in terms of both adaptation (e.g. changes in land use) and mitigation (e.g. the renovation or upgrading of historic buildings to reduce energy consumption).
- The Urban heat island effect is likely to act as a risk multiplier, meaning that buildings in urban centres will be propelled more rapidly towards damaging temperature thresholds for microbiological and/or chemical decay mechanisms. Higher temperatures can provide conditions for established pest species to spread and increase in number.
- The EU-funded Climate for Culture research project used climate modelling and whole-building simulation tools to predict how climate change will affect historic interiors in Europe. Western Atlantic Europe is likely to see an increase in biodeterioration due to mould and pests as higher temperatures provide more hospitable environments for both.
- Cultural landscapes such as parks and gardens and archaeological clusters are at risk from increasing pests and diseases as well as droughts, wildfires and windthrow. Alterations in natural landscape characteristics will also impact indirectly on material cultural heritage by

disturbing the ‘sense of place’ and on intangible culture, which expresses landscape through art, poetry and music.

4.9.2 SEA Recommendations

- Creative responses to engage on climate change through Creative Ireland support.
- Support for energy efficiency and adaptive reuse of existing buildings

4.10 Landscape and Visual:

County Sligo is characterised by a variety of mainly rural landscapes, including rough pasture predominantly in the mountains, hills, and peat bogs. On the east, the boundary with County Leitrim runs southward through the coastal lowland to the limestone Dartry Mountains, including Benbulbin Mountain (noted as one of Ireland's most distinctive natural landmarks). The County boundary crosses Glencar and an area of plateau to Lough Gill with the island of Innisfree. West of the Collooney Gap, the ridge forms the Ox Mountains and a peat moorland and, to the north, an area of continuously farmed lowland, from the mouth of the River Moy to the Leitrim border. The coastal areas of the County include Sligo Bay with three long estuaries, leading to the towns of Drumcliff, Sligo, and Ballysadare, which receive the waters of the Rivers Drumcliff, Garravogue, and Owenmore. The different landscapes found across the Plan area have varying visual and amenity values, topography, exposure levels and contain a variety of habitats. Each landscape type has varying capacity to absorb development related to its overall sensitivity.

The Regional Seascape Character Assessment prepared for the Marine Institute to inform the Marine Spatial Plan has identified one primary Seascape Character Areas at regional scale presented below in **Table 4.2**.

TABLE 4-2 SUMMARY OF SEASCAPE CHARACTER AREAS

SCA 4 Sligo Bay:
<p>Massive Atlantic Bay associated with series smaller bays and harbours including Killybegs, Sligo, Enniscrone, and bays of Moy, Killala, Donegal Bay and Malin Bay. Whilst much of the limestone bay is characterised by sweeping, open, gently sloping, low-lying bays; this contrasts with headlands and offshore features such as sea stacks most notably at Slieve League, Downpatrick, Benorthwestee and Erris Heads.</p> <p>These resistant crystalline rock cliff fronts at Slieve League and northwest Erris frame the entrance to the extensive bay, which once navigated safely, offers haven.</p> <p>Variety of sheltered bays with rich estuaries offer evidence of millennia of human activity and habitation. Principal urban centres all located at harbours or estuaries are Sligo town, Donegal town, Killybegs town and Ballina. Popular recreational resorts at Enniscrone, Strandhill and Mullaghmore offering surfing, seaweed baths as well as other coastal recreational activities. Largest fishing port (per landing) at Killybegs, Co. Donegal¹</p> <p>The coastal hinterland varies from expansive blanket bog landscapes, to remote plateaus comprising peaty soils and cliff faces, to more sheltered, fertile agricultural land.</p> <p>Islands – numerous islands and islets are present, ranging from Coney Island associated with Coney Island of New York and immortalised by WB and Jack Yeats; the diversity of islands range from sandbars such as Bartragh Island, to Inis Murray and Rathlin O’Beirne Island.</p> <p>Abundance of folklore and history associated with coastal and offshore elements such as Stags of Broadhaven</p>

4.10.1 Key Landscape and Seascape issues relating to the Climate Action Plan

Landscape changes will result from climate change impacts on:

¹ Central Statistics Office 2017: Killybegs was the most important port for Irish landings in 2017 accounting for 61% (149,908 tonnes) of all landings by Irish vessels.

- soils and vegetation
- farming and forestry
- rivers and coasts
- hills and lowlands
- buildings

Landscapes will also be affected by adaptation and mitigation measures in response to climate change, for example renewable energy infrastructure, or interventions to address surface water management, modal shifts and flooding. There is also likely to be an increase in river flooding, erosion and slope instability. Semi-natural habitats are likely to change as species' favoured conditions move north. This could affect peat bogs, native woodlands and upland plant communities. There are likely to be direct effects on trees and forests reflecting changing patterns of rainfall, increases in storm damage and a potential increase in pests and disease. This could be most evident in agricultural areas, woodlands, designed landscapes and settlements. The pattern of snowfall and snow lie is likely to change.

Along low lying sections of coast, or in areas where flooding or land stability are already issues, changes in landscape character could be quite dramatic. However, for the most part these changes will be more gradual and subtle - modifying rather than transforming the landscape.

4.10.2 SEA recommendations

- Landscape response to climate adaptation where possible
- Integration of blue and green infrastructure
- Engagement and awareness raising around landscape scale effects and response to climate change.

4.11 Decarbonising Zone.

*'A Decarbonisation Zone (DZ) is a spatial area identified by the local authority in which a range of climate mitigation, adaptation and biodiversity measures and action owners are identified to address local low carbon energy, greenhouse gas emissions, and climate needs to contribute to national climate action targets.'*¹

In accordance with Action 165 of the National Climate Action Plan 2019, each local authority was required to 'identify and develop plans for one Decarbonising Zone' within their respective administrative area. An Action Plan for the DZs must be included in the Local Authority Climate Action Plans (LA CAP) as identified in the LACAP guidelines. As a component of the LACAP, the DZ is subject to the same statutory processes, timeframes, and other procedural requirements of making the LA Climate Action Plan. The DZs are a demonstration and test bed to focus on a range of climate mitigation, adaptation and biodiversity measures including the identification of projects and outcomes to assist in the delivery of the National Climate Objective.

Carnmore, a residential area southeast of Sligo town was selected as the Decarbonising Zone for the county. See **Figure 4.18** for the boundary of the DZ and environmental maps and **Figure 4.19** for environmental sensitivity map, this map shows the ranking and data used to generate the overall environmental sensitivity map.

¹ DHLGH, Circular Letter LGSM01-2021, 10/02/21

FIGURE 4-18 CARNMORE DECARBONISING ZONE ENVIRONMENTAL PROFILE

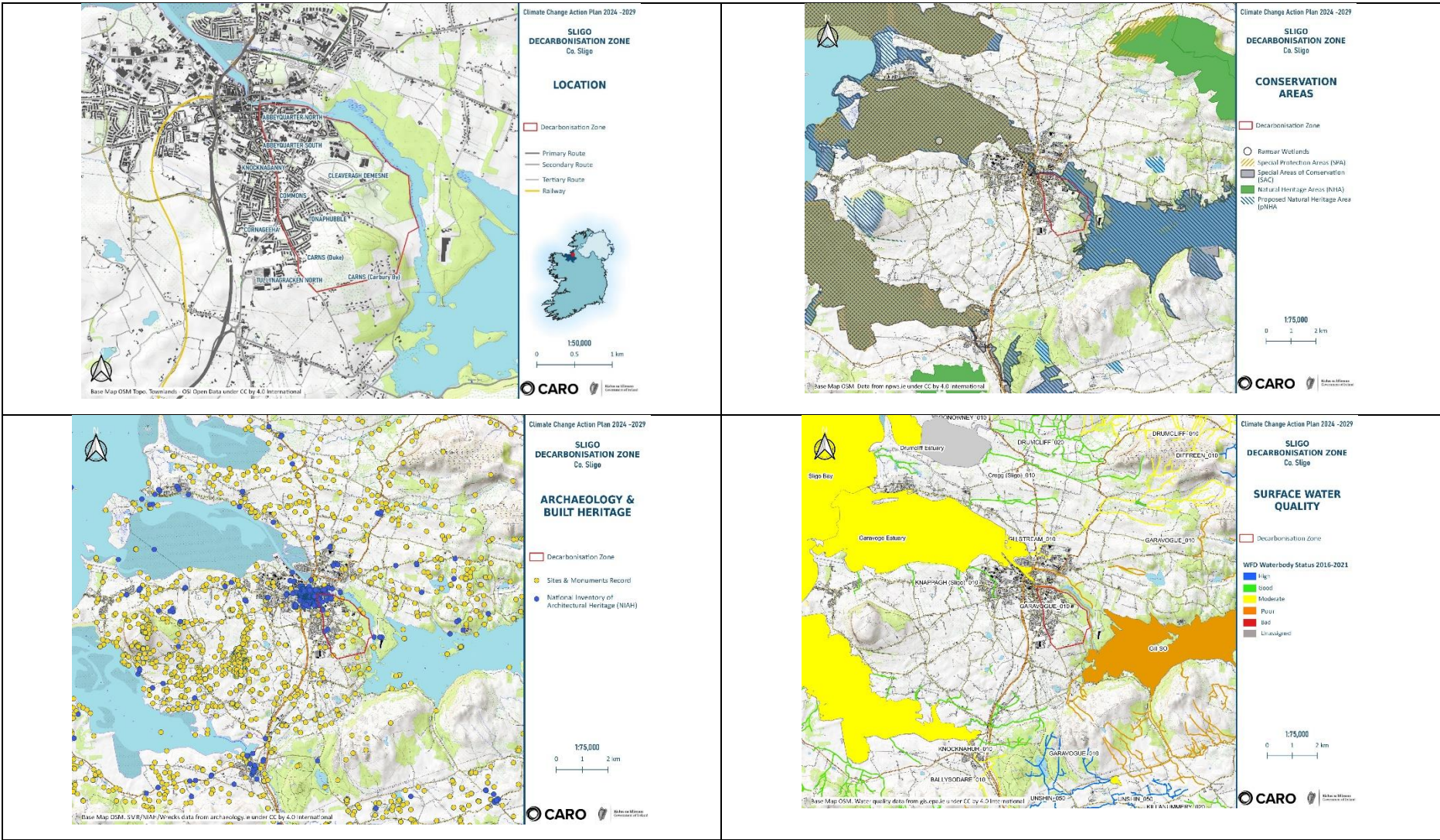
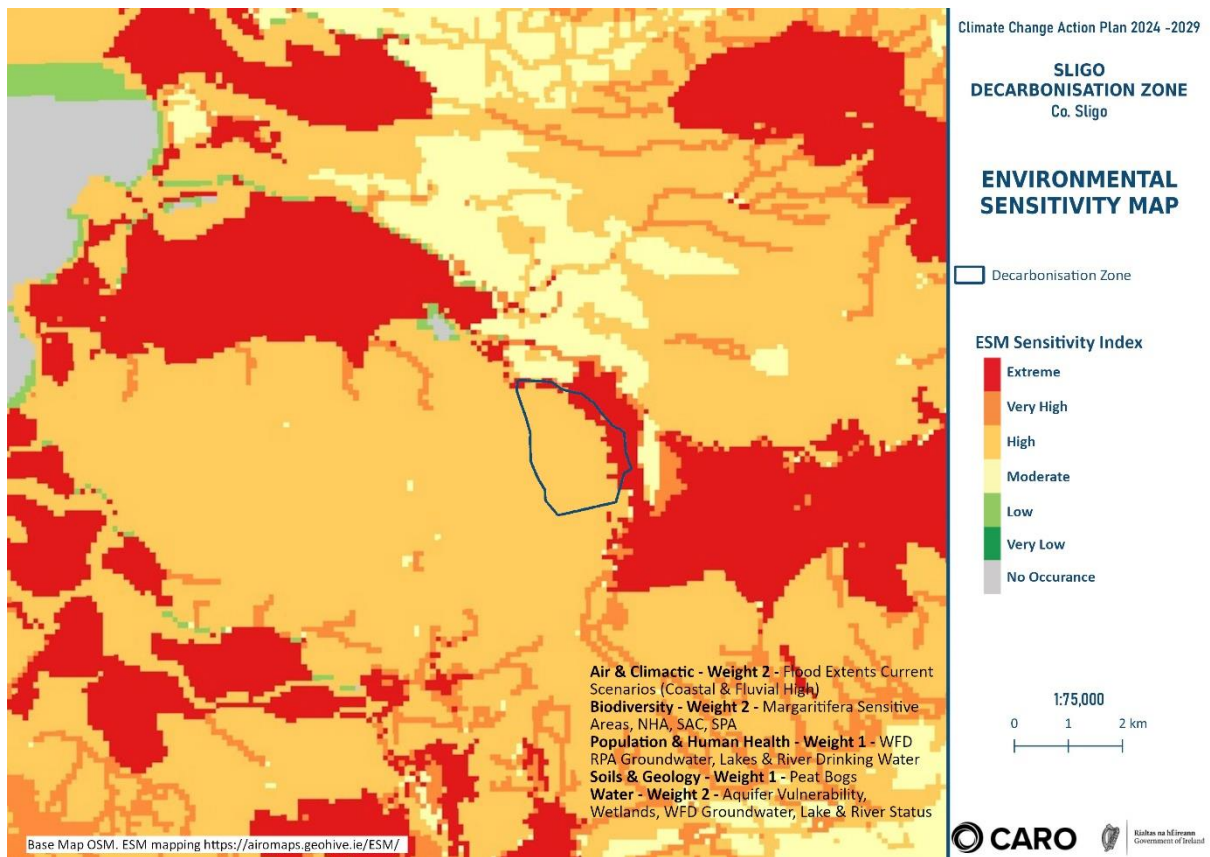


FIGURE 4-19 ENVIRONMENTAL SENSITIVITY MAP FOR DECARBONISING ZONE



4.12 Evolution of the plan area in the absence of the Climate Action Plan

The SEA legislation requires that consideration is given to the likely evolution of the current baseline where implementation of the CAP 2024-2029 does not take place. In the absence of the CAP the environment would evolve under the requirements of the Sligo County Development Plan 2017 to 2023 (extended), and when adopted the new Sligo CDP 2024 -2030.

Overall, this Climate Action Plan will be monitored and updated on an annual basis, with a review and revision every five years. Whilst the CDP-2024 will remain the primary landuse framework for the county, in the absence of the CAP, the detailed actions accompanied by targets and indicators will not allow for the annual measuring of progress in this area. This presents a lost opportunity to implement changes at local authority, and community level across the county.

Key actions relating to nature based solutions which offer a suite of positive environmental effects would not be implemented with subsequent opportunities lost to green up infrastructure, promote food security and enhance tree planting. Other actions such as peatland projects would be omitted. At county level, the local authority would be less likely to contribute to continue to the reduction in carbon emissions associated with their fleet, lighting and buildings. Promoting regional or inter county actions relating to public transport, walking and cycling may be less effective in the absence of this action plan.

4.13 Environmental Sensitivity Mapping and inter-relationships

Environmental sensitivity mapping was prepared to inform the overall assessment of the CAP and to aggregate different environmental themes to help identify areas of greater and lesser environmental sensitivity. The key datasets used to inform this sensitivity mapping are shown in the ESM map in **Figure 4.20**. The environmental sensitivities map shows the level of overlap of environmental sensitivities and the range of physical environmental factors. It is important to note that the environmental factors not reflected on this map, e.g. those that are point specific, like protected

structures, were not included as it was considered by their inclusion; it would potentially give a visual mis-representation of sensitivity when considering potential areas for future growth. Also, important to note is that the physical extent of the environmental sensitivity can extend beyond the defined area on the map, as the potential impact can be generated at a location remote from the mapped area. For example, a development outside of a designated site boundary does not mean that it cannot impact on it.

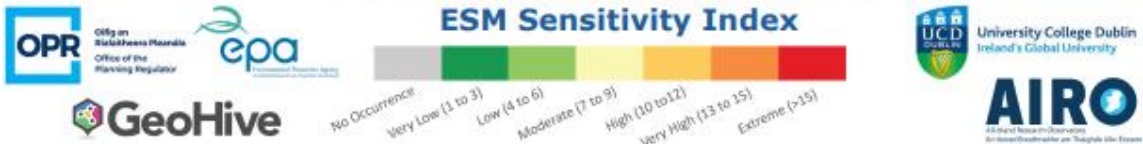
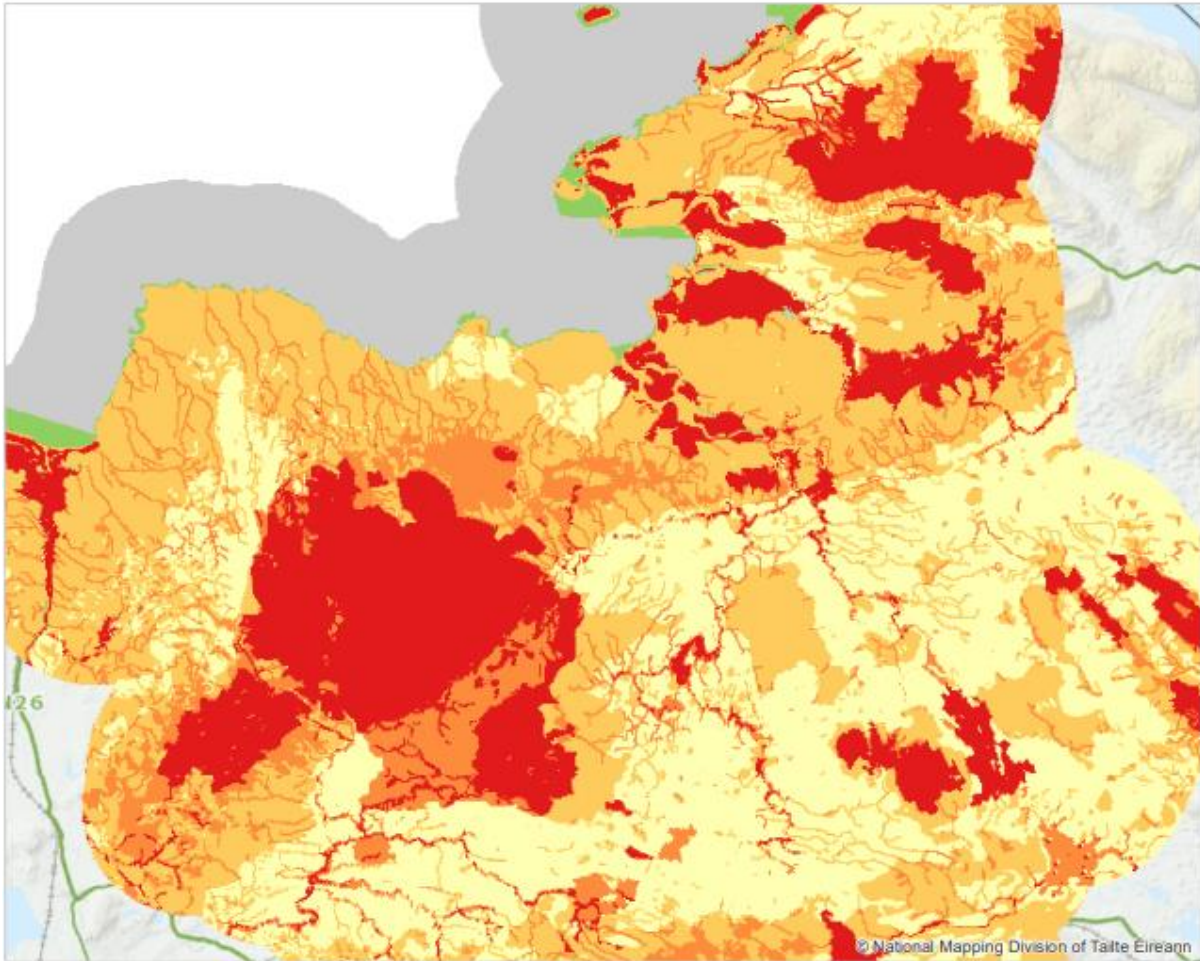
The areas of greatest overall environmental sensitivity are:

- Upland areas, such as Knocknarea, the Dartry Mountains and the Ox Mountains in the northern half of the County – on account of landscape designations, landslide susceptibility, ecological designations, groundwater vulnerability;
- Lakes throughout the County, including Lough Gara and Lough Arrow, on account of ecological and landscape designations, water status and flood risk;
- Certain locations and areas within the existing built-up footprint of the County's settlements, on account of cultural heritage designations, including entries to the Record of Monuments and Places, Entries to the Record of Protected Structures and Architectural Conservation Areas;
- Coastal areas and areas adjacent to rivers and streams, on account of ecological and visual sensitivities and elevated levels of flood risk; and
- Extensive areas of extreme and high groundwater vulnerability throughout the County.

The mapping also highlights the interaction of key environmental parameters, whilst all environmental parameters interact with each other to an extent, key interactions as shown below relate to water, biodiversity and with climate change in particular. All the parameters interact with Population and Human Health.

FIGURE 4-20 ENVIRONMENTAL SENSITIVITY MAPPING

ESM Results



Date: 11/2/2023 Time: 2:53:29 PM Author: MEC Ltd.

*This map is an aggregate result based on the variables and user defined weights listed below.

Warning: Please note that weights are only to be used to emphasize the relative significance of an environmental aspect - applying weights to more than two themes would magnify, and possibly overstate, the overall sensitivity.

Air & Climactic Weight: 2 Variables: Flood Extents Current Scenarios (Coastal 10 Year and Fluvial 10 Year) (High)

Biodiversity, flora and fauna Weight: 2 Variables: Margaritifera Sensitive Areas, Natural Heritage Areas, Special Areas of Conservation, Special Protection Areas

Cultural Heritage Weight: Variables:

Population and Human Health Weight: 1 Variables: WFD RPA Groundwater Drinking Water, WFD RPA Surface Water Drinking Water (Lakes), WFD RPA Surface Water Drinking Water (Rivers)

Soils and Geology Weight: 1 Variables: Peat Bogs

Water Weight: 2 Variables: Aquifer Vulnerability, Wetlands, WFD Groundwater Status, WFD Lake Status, WFD River Status

5 Strategic Environmental Objectives

5.1 Introduction

The purpose of the Strategic Environmental Objectives (SEO) is to ensure that the assessment process is transparent and robust, and that the CAP and SEA considers and addresses potential environmental effects. Draft SEOs have been set for each of the environmental topics outlined in **Table 5.1** and are from the SEA of the Sligo County Development Plan 2022 -2028, with some new/amended SEOs proposed to reflect the CAP. The results of this will be summarized in a table, called an evaluation matrix.

TABLE 5-1 STRATEGIC ENVIRONMENTAL OBJECTIVES

Strategic Environmental Objectives in the Sligo County Development Plan 202 -2028	
Climate Change	<p>To minimise emissions of greenhouse gasses</p> <ul style="list-style-type: none"> • Integrate sustainable design solutions into the County’s infrastructure (e.g. energy efficient buildings; green infrastructure) • Contribute towards the reduction of greenhouse gas emissions in line with national targets • Promote development resilient to the effects of climate change • Promote the use of renewable energy, energy efficient development and increased use of public transport • <i>Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</i>
Population and Human Health (PHH)	<ul style="list-style-type: none"> • <i>Safeguard the Sligo’s citizens from environment-related pressures and risks to health and well-being including air, water and noise pollution, climate change and flooding.</i> • Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services
Biodiversity, Flora and Fauna (BFF)	<ul style="list-style-type: none"> • To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species • Enhance biodiversity in line with the National Biodiversity Strategy and its targets • To protect, maintain and conserve the County’s natural capital

Strategic Environmental Objectives in the Sligo County Development Plan 202 -2028	
Soil and Geology (SG)	<ul style="list-style-type: none"> • Protect soils against pollution, and prevent degradation of the soil resource • Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County • Safeguard areas of prime agricultural land and designated geological sites
Water (W)	<ul style="list-style-type: none"> • Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • 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 • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, including coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals
Air and Noise (AN)	<ul style="list-style-type: none"> • 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 • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality • 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 • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
Material Assets	<ul style="list-style-type: none"> • Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County • 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 • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes

Strategic Environmental Objectives in the Sligo County Development Plan 202 -2028	
	<ul style="list-style-type: none"> 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
Cultural Heritage (CH)	<p><i>To support adaptive re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).</i></p> <ul style="list-style-type: none"> Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
Landscape	<ul style="list-style-type: none"> To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

6 Consideration of Alternatives

6.1 Introduction

The SEA Directive requires that reasonable alternatives be assessed to demonstrate how the preferred strategy performs against other forms of action. Alternatives must be developed, described and assessed within the SEA process, with the results presented in the Environmental Report.

- Alternative 1 - Prioritise reducing GHG emissions from largest GHG emitting sectors in the County to mitigate against climate change impacts.
- Alternative 2 - Adopt a multi-pronged approach and focus on a range of priority areas to mitigate against and adapt to climate change impacts.
- Alternative 3 -: Adopt a multipronged approach - that has a strong community engagement emphasis - and focus on a range of priority areas to mitigate against and adapt to climate change impacts.

A 'Do Nothing' or 'Do Minimum' alternative is not a reasonable alternative in this instance as the preparation of an effective LACAP is a statutory requirement under Section 16 of the Climate Act






6.2 Key environmental challenges at county scale

In addition to the environmental sensitivity map presented in Chapter 5, the following key environmental issues are relevant to the CAP and alternatives under consideration:

- Water Framework Directive and achievement of 'good' status
- Environment section identifying areas under pressure.
- European Sites, species and habitats under Wildlife Act and NHAs, pNHAs
- Monitoring of WFD.
- Climate Change – effects, mitigation, adaption and actions in the Climate Action Plan.
- Non designated hedgerows and treelines and their roles and significance for foraging and commuting for wildlife.
- Need to protect the remaining High Status waterbodies in the County. The decline in status connected to drainage and hydro morphological change.
- Local Authority Water Project Officer (LAWPRO) setting up work programme.
- Bathing Water Quality – longest coastline and higher number of designated bathing waters

6.2.1 Climate Hazard Impacts

The key results from the Climate Change Risk Assessment including impacts experienced to date in Sligo and future risks are summarised below:

-  • **Recent experiences of river and pluvial flooding** events in 2020 and 2021, resulted in damages to residential properties, closure of businesses (Mowlam Nursing Home, 2018), disruption to public services and closure of transport networks. Projected increases in the frequency of extreme precipitation events will result in increased surface water and riverine flood risk for Sligo.
-  • **Coastal erosion and coastal flooding** already pose a significant risk for County Sligo and have resulted in disruption of transport networks and damage to coastal habitats (E.g. Strandhill). Rising sea levels will increase the rate of coastal erosion and frequency of coastal inundation, resulting in an increased coastal erosion and flood risk for County Sligo.
-  • **Severe windstorms** are currently experienced on a frequent basis in Sligo and result in wide-ranging impacts, including disruption to energy supply and transport networks. Projections indicate no significant change to this frequency.
-  • **Heatwaves and droughts** have contributed to the imposition of restrictions on water supply, damage to road surfaces (e.g., N15 in 2018) and have placed an increased demand on recreational areas. Projected increases in the frequency of heatwaves and drought conditions will mean that events currently experienced on an infrequent basis will become more frequent.
-  • **Recent experiences of cold spells and heavy snowfall** events in 2018 and 2022, demonstrated the wide range of impacts for County Sligo. These included, amongst others, disruption to public transport networks (e.g. rail and Bus Eireann bus services) and road closures. Projected increases in average temperature and decreases in the frequency of snowfall indicate a decrease in the frequency of cold spells, heavy snowfall, and their associated impacts.

6.2.2 Assessment of Consideration of Alternatives

Table 6.1 presents the criteria used in the assessment matrix and the SEOs that the alternatives are assessed against are those presented in the previous Chapter Five SEOs. **Table 6.2** presents the evaluation of the alternatives.

TABLE 6-1 ASSESSMENT CRITERIA

(+)	reflects a potential positive effect
(-)	reflects a potential negative effect
(+/-)	reflects that positive and negative effects are likely or that in the absence of further detail the effect is unclear
(0)	reflects a neutral or uncertain effect

TABLE 6-2 EVALUATION OF ALTERNATIVES

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<p>To minimise emissions of greenhouse gasses Integrate sustainable design solutions into the County's infrastructure (e.g. energy efficient buildings; green infrastructure) Contribute towards the reduction of greenhouse gas emissions in line with national targets Promote development resilient to the effects of climate change Promote the use of renewable energy, energy efficient development and increased use of public transport <i>Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</i></p>	+/-	+/-	(+)	<p>For Sligo the largest emissions are derived from Agricultural (45%)and Residential (17%). Under Alternative 1 the CAP would prioritise these sectors above others. However, whilst the CAP can interact and support agricultural activities it is not the main policy or funding framework this is via the Common Agricultural Policy. Whilst the focus LUCUF can be partly driven by local authorities. Alternative 2 and 3 provide the most holistic approach to climate action with Alt 3 focus on community engagement performing better as it increases awareness and ownership of climate actions via local authority framework.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<p>Safeguard the Sligo's citizens from environment-related pressures and risks to health and well-being including air, water and noise pollution, climate change and flooding. Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management Ensure that existing population and planned growth is matched with the required public infrastructure and the required services</p>	+/-	+/-	(+)	<p>As recent research¹ has demonstrated, 79% of respondents in the County are worried about climate change and support action with concern about practicality of actions. Environmental issues can be cross cutting with similar levels of concern about water quality issues in local areas (82%). Therefore Alt 1 and Alt 2 present a more top down focus driven under Alt 1 by national policies around agriculture and under Alt 2 by a weaker focus on community scale input and responses. In this scenario, Alt3 performs the best and as it aligns closely with the Sligo CDP and supporting plans including LAPS with active travel measures and preparation of a Local Transport Plan for Sligo City; measures can be brought forward that can generate cumulatively positive effects.</p>
<p>To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests,</p>	+/-	(+)	(+)	<p>Alt 1 with key focus on agriculture, landuse and residential may not provide as many co benefits as under Alt 2 and Alt3 with less focus on nature based solutions and potential positive interactions across the BFF SEOs. Alt 2 and Alt 3 perform well but again Alt 3 performs more strongly in terms of priority areas for mitigation and adaption with stronger community engagement element.</p>

¹ EPA 2023.

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<p>associated conservation status, structure and function</p> <p>Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species</p> <p>Enhance biodiversity in line with the National Biodiversity Strategy and its targets</p> <p>To protect, maintain and conserve the County's natural capital</p>				
<p>Protect soils against pollution, and prevent degradation of the soil resource</p> <p>Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County</p> <p>Safeguard areas of prime agricultural land and designated geological sites</p>	0/-	(+)	(+)	<p>Alt 1 would include priority for residential as the third largest sector for county emissions and may contribute to achieving SG 1 in particular. However, the CDP and LAPS also have strong supporting policy objectives around brownfield and reuse so this could be addressed through all Alternatives.</p> <p>Again a multi pronged approach is identified as more consistent with SG SEOS as it is more holistic in scope with greater potential for positive interactions and co benefits. Alt 3 with community engagement also increase scope for interventions around Just Transition and potential projects relating to peatland restoration and raising water table levels.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<ul style="list-style-type: none"> •Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive •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 •Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, including coastal areas •Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals 	0/-	(+)	(+)	<p>Greater focus and support through agricultural and landuse sectors under Alt 1 would be positive for water quality issues through actions such as increased riparian buffers etc. However, this is driven at larger scale by national policy including the Common Agricultural Policy and at more county/catchment level LAWPRO. Whilst Sligo CC can support these they are not the driving agent and under this scenario the co benefits around nature based solutions are less supported as is the more holistic approach under Alt 2 and 3.</p> <p>Under all scenarios, application of CDP and LAP policies and priority actions under the Draft River Basin Management Plan would apply.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<p>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</p> <p>Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency</p> <p>Promote continuing improvement in air quality</p> <p>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</p> <p>Meet Air Quality Directive standards</p>	0/-	(+)	(+)	<p>Alt 2 and 3 perform more strongly with AQ SEOs in particular around recognising ecosystems and nature based solutions via multi-pronged approach.</p> <p>Re air quality and health, this is very influenced by transport and fuel for heating and would not be maximised under Alt 1.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
for the protection of human health — Air Quality Directive Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels				
<ul style="list-style-type: none"> •Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County •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 •Promote the circular economy, reduce waste, and increase energy efficiencies •Ensure there is adequate sewerage and drainage infrastructure in place to support new development •Reduce the energy demand from the transport sector and 	-	(+)	(+)	<p>Alt 1 performs the weakest for Material Assets SEOS although for all three, the CDP and LAP policies would apply for landuse projects. As Lat 2 and 3 include multi pronged approaches, measures under these scenarios are more broad and holistic including water conservation, circular economy and community planning.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
<p>support moves to electrification of road and rail transport modes</p> <p>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</p>				
<p>•To support adaptive re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).</p> <p>•Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage.</p>	0/-	(+)	(+)	<p>Alt 1 would include priority for residential as the third largest sector for county emissions and may contribute to achieving CH 1 in particular. However, the CDP and LAPS also have strong supporting policy objectives around reuse so this could be addressed through all Alternatives.</p> <p>Again a multi pronged approach is identified as more consistent with CH SEOS as it is more holistic in scope with greater potential for positive interactions and co benefits. Alt 3 with community engagement also increase scope for interventions around renovation of existing buildings and local cultural heritage including via Creative Ireland support measures.</p>

SEO	Alternative 1 Prioritise reducing GHG emissions from largest GHG emitting sectors in the County	Alternative 2 Adopt a multi-pronged approach and focus on a range of priority areas t	Alternative 3 Adopt a multipronged approach - that has a strong community engagement emphasis -	Comment
To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention	-	(+)	(+)	Alt1 would perform well for L SEOS, especially L1 in terms of landscape scale response and the primary emissions from agriculture, landuse in the County. As under other SEOS, however the potential for the County Council to drive this is limited. Therefore, Alt 2 and 3 perform better given the multiple elements that contribute to landscape and seascape including soil, geology, population , cultural heritage, biodiversity, therefore the multi-pronged approach is more robust for L SEOS and the focus on community action reinforces the environmental performance under Alt 2.

6.3 Preferred alternative and reason for selection

Following the above evaluation and assessment, the preferred strategic alternative for the approach to the CAP 2024 -2029 Alternative 3. This is based on the following:

In terms of all SEOs, Alternative 3 is identified as creating most positive interactions as it provides greater environmental performance overall and also allows for a greater environmental gains, than may be achieved through Alternatives 2 and 1. In addition, the multi- faceted approach contributes to greater co-benefits by providing for a wider range of environmental effects particularly around nature based solutions and resource management. The inclusion of measures for citizen engagement and awareness raising through the CAP option is also positive for a number of SEOs.

7 Assessment of Likely Significant Effects

The purpose of this section of the Environmental Report is to predict and evaluate as far as possible the environmental effects of implementing the draft CAP. Having established the environmental baseline and the key environmental sensitivities for the strategy area in Chapter 4, and the Strategic Environmental Objectives in Chapter 5, an assessment for any potential environmental effects from implementing the draft Strategy can be undertaken.

Two elements of assessment have been undertaken which include:

1. An assessment of the draft actions (See **Annex A**);
2. An assessment of cumulative and in-combination effects (See **section 7.3**).

The assessment process has been undertaken using matrix assessments which reflect ratings in relation to potential significant effects on the environment as a result of implementation. Where there is a combination of these symbols (0/+ or 0/-) this indicates that any effect maybe neutral or positive, or neutral or negative depending on how the objective is delivered. Where negative effects are identified mitigation measures are recommended to either include new objectives, or to amend or include additional text within the Plan objectives. In terms of impacts the following definitions are used:

- Profound: An impact which obliterates sensitive characteristics.
- Moderate: An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- Slight: An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Imperceptible: An impact capable of measurement but without noticeable consequences.

Thirdly the potential duration of identifiable impacts is discussed. The following terms are used:

- Short: Impact lasting one to seven years.
- Medium: Impact lasting seven to fifteen years.
- Long term: Impact lasting fifteen to sixty years.
- Permanent: Impact lasting over sixty years.
- Temporary Impact lasting for one year or less.

7.1 Summary of significant effects

TABLE 7-1 SUMMARY OF SIGNIFICANT EFFECTS

Topic	Discussion
Population and human health	<p>Many of the actions identified in the CAP give rise to medium to term positive effects on population and human health both by responding and adapting to the impacts of climate change, and also reducing greenhouse gas emissions through a series of measures.</p> <p>Reflecting the opportunity for co-benefits of the CAP, measures around energy efficiency and retrofitting plus renewable energy opportunities can help address fuel poverty in relation to vulnerable individuals as well as the chance to reuse energy from within the local area, for example</p> <p><i>. 10 Ensure that the Social Housing Retrofitting Program is completed each year, and expanded where possible.</i></p> <p><i>11 Identify potential energy saving initiatives that can be applied to social housing stock and carry out pilots before extension to all stock</i></p> <p><i>16 Continue to work with Sligo SEC partners on exploring the potential for developing a green gas network and a biogas facility in Sligo.</i></p> <p>Reflecting key objectives in the Draft Sligo CDP 2024-2030 and the preparation of a Local Transport Plans for the Sligo City) the CAP will support and encourage a modal shift in transport by expanding the walking and cycling network, making walking and cycling safer and encouraging and promoting greater engagement and awareness raising in relation to walking and cycling and promoting behavioural change; for example see <i>Action38 Develop Sustainable Travel Mobility Hubs and promote shared mobility solutions that will allow for the move away from private car ownership</i></p> <p>Interactions between active travel support in the CAP, the draft CDP, LPT will support modal shifts, in terms of making walking and cycling safer and more attractive on daily basis.</p> <p>Addressing GHG emissions from the Transport and Residential sectors as the above actions do have accompanying positive impacts in terms of local air quality and therefore on human health. In addition, the impact of particulate matter and other airborne particles extend beyond human health to the entire terrestrial and aquatic environment (Tositti et al., 2018¹).</p> <p>In the absence of mitigation, whilst the current Sligo CDP 218-2024 and draft CDP 2024-2030 policies will apply there could be adverse environmental effects around capacity building, training, embedding nature based solutions that can provide co benefits across many environmental resources, subject to robust assessment and design.</p> <p>These could result in localised and synergistic impacts on parameters including cultural heritage, landscape that may affect population and human health. Equally grey infrastructure measures particularly at sensitive locations such as coastal habitats can impact sense of place, landscape character, as well as cross cutting adverse effects such as coastal squeeze.</p>

¹ Particulate pollution and its toxicity to fish: An overview ,Gokul, Ramesh Kumar, Prema, Arun, Paulraj, Faggio. Comparative Biochemistry and Physiology Part C Vol:270. 2023.

Topic	Discussion
	<p>Encouraging and accessing local knowledge and capacity is provided for within the CAP but additional recommendations are made in this regard, based on supporting nature based solutions and referencing recent EPA research on coastal resilience and communities (<i>see Action 20</i> Continue to monitor coastal erosion along Sligo shoreline and maintain existing sea defences</p>
<p>Biodiversity, Flora and Fauna</p>	<p>The promotion of a nature based measures and resource management in particular along with blue and green infrastructure actions all strengthen overall protection of biodiversity resources and the Biodiversity SEOS.</p> <p><i>Action</i> Action 31: Develop a register of Council owned properties that may be used for Nature based solutions, and implement actions, including the establishment of an annual native tree planting programme, over lifetime of LACAP- this is recommended for additional mitigation to provide greater clarity and support for tree planting in appropriate locations and of appropriate mixes, to avoid indirect or direct loss of habitat that is important for a range of species including birds.</p> <p>Actions in particular those under Action 30 (Biodiversity plan) are identified as positive for BFF as well as interacting positive across other SEOs namely soil, water, air, climate change with indirect positive effects and direct positive effects on population and human health and material assets. Mitigation is recommended to further support and strengthen protection of habitats and species for these actions.</p> <p>In relation to other actions, such as those relating to landuse such as transport and Decarbonising zone of Carnmore existing mitigation in the Sligo CDP current and Draft would apply at development management and consenting, mitigation is recommended for a number of actions to emphasise focus on nature based solutions and co benefits as well as a number of new additional actions to align the actions closely with environmental and ecological assessments generally and the CDP in particular.</p> <p>Walking and cycling actions, if they were to take place on or near sensitive habitats or species vulnerable to disturbance would give rise to adverse effects. However, the existing environmental protection provisions in the CDP will apply and provide sufficient mitigation measures In addition mitigation measures are recommended for a number of these actions.</p>
<p>Water resources</p>	<p>Potential effects on water resources (and frequently biodiversity) in the absence of mitigation include:</p> <ul style="list-style-type: none"> ● Surface water runoff from impermeable surfaces leading to reduced water quality in groundwater springs or surface waters affecting qualifying habitats and species downstream (impacts can range from short to long term); ● Changes in the flow rate of watercourses arising from an increased footprint of impermeable surfaces within the Plan area - increasing the extent of impermeable surfaces will result in a decrease in infiltration and an increase in runoff; ● Generally, land use practices can result in water quality impacts and whilst surface water impacts may be identified quickly, impacts to groundwater can take much longer to ascertain due to the slow recharge rate of this water resource; ● Water quality impacts can also have human health impacts in the case where bacterial or chemical contamination arises. Pressures and impacts on material assets from climate change such as flooding with damage to wastewater treatment facilities or water supply is particularly relevant in this regard.

Topic	Discussion
	<p>The Sligo CDP 2017 -2023 (extended)and Draft CDP, already include a range of provisions and measures to address and minimise the above effects, including measures around green and blue infrastructure such as <i>OB D2 Prepare and support the implementation of a Green Infrastructure Strategy4 for County Sligo.</i>, flood risk management and development control as well as adaptation measures that support nature based solutions. The CAP however further enhances and strengthens these through the flood resilience actions and nature based solutions in particular.</p> <p>Implementation of the Biodiversity Plan for the County create positive interactions for Water SEOS as well as cross cutting other SEOS in a positive manner.</p> <p>A key focus on the actions should be to prioritise Nature Based solutions and learn from other relevant case studies and examples from Ireland and with EU that have demonstrated excellent outputs that provide co benefits. See for example the Compendium of Nature Based Solutions (2020) – Green Cities for Climate and Water Resilience, Sustainable Economic Growth, Healthy Citizens and Environments -Compendium of nature-based and 'grey' solutions - GrowGreen (growgreenproject.eu)</p> <p>Measures around nature based solutions, creating long term direct positive effects on water resources, as well as soil and biodiversity, population and human health. The action is recommended for mitigation to further detail and strengthen overall environmental protection.</p>
Soil and Geology	<p>Soil quality and function may be enhanced through particular measures associated with flood resilience, nature based solutions and resource management in particular. The carbon sequestration function of soil and healthy soil quality are extremely significant, across several environmental parameters but in particular for agriculture which amounts to 45% of the GHG emissions at county level.</p> <p>Support for the circular economy in particular around food waste, local food production is also positive, particular if composting can be applied to enhance soil function. <i>Action 3: Support & implement the objectives and actions of the National Waste Management Plan for a Circular Economy, as they relate to Sligo</i></p> <p>A number of the measures relating to soil are identified for mitigation via NBS, to further strengthen the environmental performance of these actions.</p>
Air Quality and Climate	<p>Overall, the CAP will contribute positively to climate change adaptation, and mitigation through the actions as well as the KPIs included in the plan that will allow robust monitoring of actions. In summary, actions relating to nature based solutions give rise to increased surface water storage and potential carbon sequestration with accompanying co benefits across most SEOS in particular landscape, population and human health, air quality, water and soil and biodiversity. These are dependent on such green and blue infrastructure resources (existing) being understood and surveys, with interventions underpinned by scientific and robust evidence base. The SEA and AA has recommended additional text for certain actions to increase the focus on Nature based solutions.</p> <p>The focus on energy efficiency and innovation as seen through the actions identified in the CAP, examples include <i>Action 1 Implement ISO 50001 Energy Management System across the entire organisation to continually improve energy management standards & performance to achieve the 2030 targets (50% energy reduction & 51% GHG emission reduction from a 2016-2018 baseline).</i></p>

Topic	Discussion
	<p>Other related measures including key measures relating to behavioural change around transport and the increase in walking/cycling and public transport measures are essential in addressing transport emissions over the lifetime of the CAP and beyond. The support and actions in the Carnmore DZ will facilitate peer to peer learning amongst communities and demonstrate successful actions at community and local scale. Recognising the ecosystems functions of soil, water and biodiversity is a key element in the Nature Based solutions theme and is an important acknowledgement that also provides for positive effects across a number of SEOs.</p>
<p>Material Assets</p>	<p>Many of the measures provide for mitigation and adaptation with a view to minimising adverse effects of climate change on material assets, and also responding and facilitating behavioural and modal change in energy use and transport. Examples of these include the following:</p> <p>Unlike natural gas, which is extracted from the ground, green gas is man-made. It is obtained by purifying obtained from the transformation of organic matter by bacteria. Green gas is therefore a renewable, sustainable energy that can be used in exactly the same way as natural gas.</p> <p>Action 36: Deliver on existing multi-annual Active Travel programme and continue to work for future expansion of the network.</p> <ul style="list-style-type: none"> • Promotion of nature based solutions and SuDs • Climate proofing local authority actions • Actions relating to energy efficiency, renewable energy and circular economy are also identified as generating positive, long terms effects, being consistent with Material Asset SEOS, as well as soil and geology and accompanying positive medium term effects on population and human health and water, biodiversity.
<p>Cultural Heritage</p>	<p>Archaeology and Built heritage features are present throughout the plan area, and in particular those archaeological or built heritage features associated with the coastline may be particularly vulnerable to climate change effects. The concentration of built heritage features and historic settlements on the coastline increases their vulnerability to the effects of climate change. Cultural heritage is not often considered or captured adequately in coastal zone management planning and this can give rise to adverse effects on cultural heritage, for example:</p> <p>Overlooking cultural resources can result in</p> <ul style="list-style-type: none"> • loss of cultural identity associated with certain habitats; • loss of tourism, recreational and educational opportunities; • decline in local ecological knowledge, skills and technology pertaining to habitat management; • and loss of opportunities for social and cultural capital¹

¹ Coastal cultural heritage: A resource to be included in integrated coastal zone management

[SornaKhakzad^aMarnixPieters^bKoenraadVan Balen^c](#)
[Ocean & Coastal Management](#)
[Volume 118, Part B](#)

Topic	Discussion
	<p>Action 18 Identify & register heritage sites that are at risk from climate related weather events supports the data collection and should inform targeted responses to address sites at risk. This should interact with policies in the Draft CDP as well as support for adaptive reuse/ reuse of existing buildings.</p> <p>Research and risk assessment is important to ensure cultural heritage assets (tangible and intangible) are identified and managed with sensitive interventions to the fabric of the tangible cultural heritage feature.</p> <p>Potential actions with Creative Ireland relating to climate change should be explored in the CAP.</p>
Landscape	<p>Long term positive effects are identified for the CAP and landscape primarily through the nature based solutions, green and blue infrastructure, increased tree planting etc.</p> <p>Many of the measures in the CAP require a landscape level response such as recognition of green and blue infrastructure and corridors and this an important approach to take when responding to climate change.</p> <p>Overall, positive effects identified for Landscape SEOs, as landscape change can be considerable with climate change effects in terms of changing water levels, habitat change, transport measures and adaptation measures such as flood risk management.</p> <p>An increase in blue and green infrastructure, public realm and permeability would all create long term positive effects for the Landscape SEOs.</p> <p>Mitigation measure are recommended for a number of actions to strengthen consideration of landscape.</p>

7.2 Cumulative effects

This section of the Environmental Report provides an outline of the potential cumulative effects on the environment as a result of implementation of the CAP 2024-2029..

Cumulative effects are referred to in a number of SEA Guidance documents and are defined in the EPA SEA Process Checklist as *“effects on the environment that result from incremental changes caused by the strategic action together with other past, present and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space”*. These effects can be insignificant individually but cumulatively over time and from a number of sources can result in the degradation of sensitive environmental resources. The assessment of cumulative effects is a requirement of the SEA Directive (2001/42/EC).

The 2004 Guidelines produced by the DECLG outlines that the SEA process is in a good position to address cumulative effects for which the Environmental Impact Assessment process is not equipped to deal with. Due to the strategic nature of the SEA process a forum is provided in which cumulative effects can be addressed. The EPA Strive Report 2007-2013 on ‘Integrated Biodiversity Impact Assessment’ describes cumulative effects as incremental effects resulting from a combination of two or more individual effects, or from an interaction between individual effects – which may lead to a synergistic effect (i.e. greater than the sum of the individual effects), or any progressive effect likely to emerge over time.

- Cumulatively and in combination, several of the CAP Actions encourage a modal shift and in turn gives rise to indirect positive effects, for example by creating more physical activity in terms of travel to work and school, positively affecting air quality with accompanying benefits to both population and human health .
- In addition, this can create a reduction in emissions associated with Particulate Matter and Nitrogen Dioxide. This benefits both human health as well as Biodiversity, flora and fauna and surface water features.
- The majority of the Flood Resilient measures are identified as being consistent and positive across all SEOs, in particular measures that promote natural based solutions such as tree planting and SUDs are all positive across all parameters and can provide multi-functional benefits in the landscape.
- In combination and cumulative effects are particularly relevant to the Nature Based solutions actions which together create long term positive effects across Population, Landscape, Biodiversity, Soil and Geology, Water and Material Assets whilst responding to climate change effects.
- Landuse effects are identified particularly for certain energy and transport measures; including active travel, renewable energy, protection of coast. In the absence of mitigation adverse effects could arise but the compliance with the statutory land use plans notably the County Development Plan will provide appropriate protection.
- In turn, positive short to medium term effects are identified in the case of significant reductions in emissions from transport and residential energy with cross cutting positive effects on air quality with accompanying positive effects on human health, water, habitats and climate.
- Threaded throughout the CAP is the theme of citizen engagement and awareness raising and this is critical to both inform, educate and engage citizens in relation to responding to climate change, whilst also identifying positive measures. Many of the engagement actions should increase public awareness and a sense of responsibility, collective and individual action in

addressing and adapting to climate change. Positive in combination effects are identified for human health around modal shifts, and green infrastructure, behavioural change, tree planting and responding to flood risk. The Carnmore DZ can function as an local example of good practice and support learning and lessons across the county.

- The purpose of the actions within the CAP are to significantly reduce the county’s GHG emissions and these actions together, if fully implemented are positive for addressing this significant challenge that requires immediate and urgent implementation of actions.
- Collaboration within the local authority but also with other agencies and departments such as Department of Agriculture, food and marine, locally led agri environment schemes and research with academic institutions should result in positive effects in the medium to longer term.
- A key challenge is assessing how the pace of climate change impacts interact with the CAP actions, potential cascading effects and ensuring that the monitoring is accurate, frequent and able to influence remedial actions.

TABLE 7-2 KEY PLANS CONSIDERED FOR CUMULATIVE IMPACTS

Principal Plans	Comment	Statement
National Planning Framework (under revision)	This plan was subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified	No in-combination impacts were predicted as a result of implementation of the Plan, the revised NPF will be subject to full SEA and AA.
CAP Strategic Plan 2023-2027 / FoodVision 2030 /	The CAP Strategic Plan is the key mechanism for agriculture and needs to comply with all environmental legislation and the mitigation measures for interventions as detailed in the SEA ER and NIS	No in-combination impacts were predicted as a result of implementation of the Plan, the revised NPF will be subject to full SEA and AA
Northern and Western Regional Economic and Spatial Strategy 2020-2032;	These plans were subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified.	No in-combination impacts were predicted as a result of implementation of the Plans.
Third Cycle River Basin Management Plan for Ireland 2022-2027 draft	The third and current cycle aims to build particularly on the initiatives of the second cycle, particularly the governance and implementation structures, and to improve the establishment of Irish Water, An Forum Uisce, the Local Authority Waters Programme and the Agricultural Sustainability Support and Advisory Programme. These objectives support the policies in the LAP. However, any developments that may arise as a result of this plan will be required to have a project level AA and EIA which will assess these in detail	No in-combination impacts were predicted as a result of implementation of the Plans

Principal Plans	Comment	Statement
	and provide suitable mitigation measures where appropriate. The Third Cycle RMP is subject to full SEA And AA.	
<p>Sligo County Development Plan 2017-2023 (extended)</p> <p>Draft Sligo County Development Plan 2024 -203</p>	<p>The Sligo County Development Plan was adopted in 2017 and was prepared in accordance with the Planning and Development Act 2000, and was subject to full SEA, AA and SFRA.</p> <p>The plan sets out the overall strategy for planning and sustainable development for the county. Chapter 10 of the plan outlines the aims of the Sligo County Council to protect and enhance the natural heritage and biodiversity of designated and non-designated ecological sites and sets out the policies and objectives for this.</p>	<p>No in-combination impacts were predicted as a result of implementation of the Plans.</p> <p>The Draft CDP is currently on display for public consultation and has been informed by the accompanying SEA ER, NIR and SFRA.</p>
Sligo County Local Economic and Community Plan (LECP) 2017 - 2022; new LECP in prep.	These plans were subject to SEA and AA screening and concluded that subject to full adherence and implementation of measures likely significant effects were not identified.	No in-combination impacts were predicted as a result of implementation of the Plans.
County Sligo Climate Change Adaptation Strategy 2019-2024	Sligo Council Climate Change Adaptation Strategy (2019-2024 and any subsequent versions). This Plan has been subject to SEA/AA screening and is being replaced by the CAP 2024 -2029	No in-combination impacts were predicted as a result of implementation of the Plans.

8 Mitigation Measures

8.1 Introduction

This chapter outlines the mitigation measures that will prevent, reduce, and offset as much as possible any significant adverse effects on the environment of the plan area resulting from the implementation of the CAP. Section (g) of Schedule 2B of the SEA Regulations (as amended) requires *'The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the Plan'*.

Mitigation involves ameliorating significant negative effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts or where this is not possible, to lessening or offsetting those effects. Mitigation measures can be generally divided into those that:

- Avoid effects;
- Reduce the magnitude or extent, probability and/or severity of effect;
- Repair effects after they have occurred, and
- Compensate for effects, by balancing out negative impacts with positive ones.

The iterative process of the CAP preparation has facilitated the integration of environmental considerations into the CAP. In addition, potential positive effects of implementing the CAP have been and will be maximized and potential adverse effects have been and will be avoided, reduced or offset.

Many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated assessments including the Screening for Appropriate Assessment/Natura Impact Report. Proposals for development which are deemed contrary to the environmental objectives contained in the Sligo CDP 2017-2023 and draft CDP 2024 -2030 and Local Area Plans will not normally be permitted, and if permitted, not without the appropriate site and development specific mitigation measures. There were also a number of actions associated with the CAP that were identified as potentially generating significant adverse impacts on the environment, and/or were identified as benefiting from additional text amendments. Suggested rewording of these proposals are put forward for consideration and recommended for inclusion in the CAP.

This chapter is structured as follows:

8.2 Environmental Protection Measures in the Sligo CDP 2017 -2023 (extended) and Draft CDP 2024 -2030

8.3 Mitigation measures –amendment of text or new actions in the CAP 2024 -2029.

8.2 Environmental Protection Measures in the Sligo CDP 2027-2023 (extended) and Draft CDP 2024-2030

TABLE 8-1 EXISTING ENVIRONMENTAL PROTECTION MEASURES SLIGO CDP 2017 -2023 (EXTENDED)

Ref	Text
It is the policy of Sligo County Council to:	<p>P-DSNC-1 Protect and maintain the favourable conservation status and conservation value of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs), Ramsar Sites, Statutory Nature Reserves. In addition, the Council will identify, maintain and develop non-designated areas of high nature conservation value which serve as linkages or ‘stepping stones’ between protected sites in accordance with Article 10 of the Habitats Directive.</p> <p>P-DSNC-2 Promote the maintenance and, as appropriate, achievement of ‘favourable conservation status’ of habitats and species in association with the NPWS.</p> <p>P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land-use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive, All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000.</p> <p>P-DSNC-4 Consider development within, or with the potential to affect, Natural Heritage Areas or proposed Natural Heritage Areas, where it is shown that such development, activities or works will not have significant negative impacts on such sites or features, or in circumstances where impacts can be appropriately mitigated.</p>
It is the policy of Sligo County Council to:	<p>P-NCODS-1 Minimise the impact of new development on habitats of natural value that are key features of the County’s ecological network. Developments likely to have an adverse effect on recognised sites of local nature conservation importance will be required to demonstrate the impacts on the ecological value of the site and will not be approved unless it can be clearly demonstrated that there are reasons for the development that outweigh the need to safeguard the nature conservation value of the site.</p> <p>P-NCODS-2 Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.</p> <p>P-NCODS-3 Ensure that proposals for development protect and enhance biodiversity, wherever possible, by minimising adverse impacts on existing habitats and by including mitigation and/or compensation measures, as appropriate, which ensure that biodiversity is enhanced.</p> <p>P-NCODS-4 Apply the precautionary principle in relation to development proposals with potential to impact on County Biodiversity Sites or on local nature conservation interest by requiring an ecological impact assessment (EclA) to ensure that any proposed development will not affect the integrity and conservation value of the site.</p> <p>P-NCODS-5 Ensure that no ecological networks, or parts thereof which provide significant connectivity between areas of local biodiversity, are lost without remediation as a result of implementation of this Plan.</p> <p>P-NCODS-6 Provide guidance for developers and the general public in relation to nature conservation outside designated sites and the conservation and enhancement of biodiversity and geological heritage in general.</p> <p>P-NCODS-7 Integrate biodiversity consideration</p>

It is the policy of Sligo County Council to	<p>P-INW-1 Protect rivers, streams and other water courses and their associated Core Riparian Zones (CRZs) from inappropriate development and maintain them in an open state, capable of providing suitable habitats for fauna and flora. Structures (e.g. bridges) crossing fisheries waters shall be clear-span and shall be designed and built in consultation with Inland Fisheries Ireland.</p> <p>P- INW-2 Protect and enhance biodiversity richness by protecting rivers, stream corridors and valleys by reserving land along their banks for ecological corridors, maintaining them free from inappropriate development and discouraging culverting or realignment.</p> <p>P- INW-3 Ensure that all proposed greenfield residential and commercial developments use sustainable drainage systems (SUDS) in accordance with best current practice, ensuring protection of the integrity of wetland sites in the adjoining area, including their hydrological regime.</p> <p>P- INW-4 Ensure that floodplains and wetlands within the Plan area are retained for their biodiversity and flood protection value.</p> <p>P- INW-5 Ensure that proposed developments do not adversely affect groundwater resources and groundwater-dependent habitats and species.</p>
It is the policy of Sligo County Council to:	<p>P-WTH-1 Protect trees, woodlands and hedgerows from development that would impact adversely upon them. Promote new tree and woodland planting and the enhancement of existing hedgerows by seeking increased coverage, in conjunction with new development using native species of local provenance, where possible.</p> <p>P-WTH-2 Discourage the felling of mature trees to facilitate development and, where appropriate make use of tree preservation orders to protect important trees and groups of trees which may be at risk or have an important amenity or historic value.</p> <p>P-WTH-3 Require the planting of native broadleaved species, and species of local provenance, in new developments. P-WTH-4 Promote the planting of native tree and shrub species by committing to using native species (of local provenance wherever possible) in its landscaping works and on County Council property.</p>

TABLE 8-2 MITIGATION MEASURES IN THE DRAFT SLIGO CDP 2024 -2039

REF	Text
P-BD-1	Protect, conserve, enhance and sustainably manage the natural heritage, biodiversity, geological heritage, landscape and environment of County Sligo. P-BD-2 Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under EU Habitats Directive (92/43/EEC), the EU Birds Directive (2009/147/EC), European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended, Flora (Protection) Order 2015, the Wildlife Act 1976 (as amended), and the Wildlife (Amendment) Act 2000 as amended, including all statutory instruments made under each act.
P-BD-3	Ensure that the ecological impact of all development proposals on habitats and species are appropriately assessed by suitably qualified professionals, in accordance with best practice guidelines, taking full account of the precautionary principle where uncertainty exists.
P-BD-4	Minimise adverse impacts of proposed developments on existing habitats (whether designated or not) by including mitigation and/or compensation measures as appropriate.
P-BD-5.	Raise public awareness of the natural heritage and biodiversity of the County and encourage increased public participation in biodiversity conservation by supporting community-led initiatives

P-BD-6	Support the implementation of the All-Ireland Pollinator Plan 2021-2025 and any subsequent revisions.
O-BD-1	Implement, in partnership with the Department of Housing, Local Government and Heritage, relevant stakeholders and the community, the objectives and actions of both the County Sligo Biodiversity Action Plan and the National Biodiversity Action Plan as it relates to the remit and functions of Sligo County Council.
O-BD-2	Prepare and support the implementation of a Green Infrastructure Strategy for County Sligo.
P-DSNC-1	Protect and maintain the conservation status of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA), Ramsar Sites, Statutory Nature Reserves, as identified by the Minister for Culture, Heritage and the Gaeltacht, and any other sites that may be proposed for designation during the lifetime of this Plan.
P-DSNC-2	Promote the maintenance and, as appropriate, achievement of 'favourable conservation status' of habitats and species in association with the National Parks and Wildlife Service (NPWS).
P-DSNC-3	Carry out an appropriate level of assessment for all development plans, land-use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive. All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000 (as amended).
P-DSNC-4	Ensure that all development proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate..
O-DSNC-1	Identify any areas of high nature conservation value which are of major importance for wild fauna and flora in accordance with Article 10 of the Habitats Directive, and which have not been previously identified.
O-DSNC-2	Undertake appropriate surveys and collect data to provide an evidence-base to assist the Council in meeting its obligations under Article 6 of the Habitats Directives (92/43/EEC) as transposed into Irish Law, subject to available resources.
P-PS-1	Ensure that development does not have a significant adverse impact incapable of satisfactory mitigation on plant, animal or bird species protected by law.
P-PS-2	Consult with the National Parks and Wildlife Service (DHLGH) and take account of any licensing requirements when undertaking, approving and authorising development which is likely to affect plant, animal or bird species protected by law.
P-PS-3	Provide guidance to developers and others in relation to species protected by law and their protection and management in the context of development.
P-PS-4	Ensure, where appropriate, the protection and conservation of areas, sites, species and ecological networks of biodiversity value outside designated sites, and require an appropriate level of ecological assessment by suitably qualified professionals to accompany any development proposals likely to impact on such areas or species.

P-PS-5	Require all new developments to incorporate habitat facilities for wildlife species, including Swifts, in or on buildings or their facades, where appropriate. O-PS-1 Undertake surveys, as appropriate, to establish the location of protected flora and fauna in the Plan area through the County Heritage Plan and the County Biodiversity Action Plan
O-NCODS 2	2 Identify and protect, in co-operation with the relevant statutory agencies and other relevant groups, County Biodiversity Sites which are not otherwise protected by legislation.
O-NCODS-3	Ensure that the findings of the County Habitat Mapping project (when completed) are utilised to inform the development management process. P-WET-1 Have regard to the County Sligo Wetlands Surveys 2008-2011 and subsequent wetland surveys that may be published during the lifetime of this Plan. Protect surveyed wetland sites that have been rated of A (International), B (National) and C+ (County) importance.
P-WET-2	Ensure that an ecological assessment at an appropriate level (including EIA, where appropriate) is undertaken in conjunction with proposals involving drainage, reclamation or infilling of wetland habitats.
	<p>P-WHT-1 Protect woodlands, hedgerows and trees from development that would impact adversely upon them. Promote new tree and woodland planting and the enhancement of existing hedgerows by seeking increased coverage, in conjunction with new development using native species of local provenance, where possible. P-WHT-2 Discourage the felling of mature trees to facilitate development and, where appropriate make use of tree preservation orders to protect important trees and groups of trees which may be at risk or have an important amenity or historic value.</p> <p>P-WHT-3 Require the planting of native broadleaved species, and species of local provenance, in new developments and as part of Sligo County Council's own landscaping works.</p> <p>P-WHT-4 Encourage the retention of hedgerows and other distinctive boundary treatments in rural areas, and prevent loss and fragmentation where practically possible.</p> <p>If removal of a hedgerow, stone wall or other distinctive boundary treatment is unavoidable, reinstatement of the same type of boundary shall be required. P-WHT-5 Promote awareness and require the retention and protection of hedgerows which mark townland boundaries, in recognition of their historic value and archaeological importance.</p> <p>P-WHT-6 Protect native and semi-natural woodlands, groups of trees and individual mature trees in line with best practice, and encourage their effective management and retention.</p>
P-INV-1.	Prevent and control the spread of invasive plant and animal species within the county

P-INV-2	Require all development proposals to address the presence of invasive alien species on proposed development sites and (if necessary) require applicants to prepare and submit an Invasive Species Management Plan, in compliance with the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011-2015.
P-INV-3	Promote best practice in the control of invasive species when carrying out statutory functions of the County Council in association with relevant bodies, including TII, the Department of Transport and the Department of Rural and Community Development. O-INV-1 Undertake studies through the County Heritage Plan and County Biodiversity Plan to quantify the extent of selected invasive species (Japanese Knotweed, Giant Hogweed and Himalayan Balsam) within the Plan area, with recommendations of priority species for control or eradication, the degree of threat posed and the resources required for effective management.
P-OR-6	Where feasible, develop walkways and cycleways between green spaces or green corridors in built-up areas and recreational areas located outside settlements, including coastal, upland, lakeland and forestry sites and subject to compliance with the requirements of the Habitats Directive.
P-CP-2	Require that any development within the coastal zone is appropriately sited and designed, having regard to coastal flooding, future shoreline erosion, predicted sea-level rise and OPW flood mapping.
P-CP-3	Require that detailed flood risk assessment is carried out in relation to development proposals within the coastal zone and particularly on all low-lying areas, where appropriate.
O-CP-1	Identify, prioritise and implement coastal protection works within the coastal zone where considered necessary, subject to the availability of resources and subject to compliance with the Habitats and Birds Directives.
O-CP-2	Monitor existing dune management schemes on an ongoing basis and carry out appropriate repairs, improvements and extensions, subject to the availability of resources and compliance with the Habitats and Birds Directives. Where appropriate, continue to employ soft engineering techniques (i.e. dune stabilisation and planting).
O-CP-3	Examine existing beach bye-laws and make appropriate amendments, in the interest of protecting sand dunes from encroachment and damage.
33.2.5 Surface water drainage	All applications for planning permission shall incorporate proposals for the disposal of surface water. The use of nature-based solutions will be required in all medium to large scale development proposals.
P-FOR-1	Support sustainable forestry development in County Sligo, subject to the protection of scenic landscapes and views, water quality, heritage features, residential amenity and public safety.

8.3 SEA and AA Mitigation Measures to Sligo Climate Action Plan (reworded/new text in blue font)

TABLE 8-3 MITIGATION MEASURES TO SLIGO CLIMATE ACTION PLAN

Action No.	Action Description
new action	In implementing this County Sligo Climate Action Plan, ensure compliance with forthcoming Sligo County Development Plan 2024-2030 and current CDP and local area plan objectives and policies relating to environmental management, the protection of statutory Conservation Areas and ensure compliance with specific environmental management measures relating to this plan. Landuse plans and projects arising from this Climate Action Plan will be underpinned by Strategic Environmental Assessment, Environmental Impact Assessment, Appropriate Assessment, and Ecological Impact Assessments as relevant.
new action	Sligo County Council will take account of any relevant recommendations in the EPA State of Our Environment Report 2024, once published, in implementing the Plan over its lifetime.
new action	Sligo County Council will consider any relevant updated actions, measures or recommendations that may arise in updates to the National Climate Action Plan over the lifetime of the Plan.
14	Ensure all public lighting is retrofitted to low energy lamps and that the system is monitoring and managed to maximise energy efficiency with due regard to impacts on biodiversity
20	Continue to monitor coastal erosion along Sligo shoreline and maintain existing sea defences considering application of nature based solutions and in line with conservation management objectives of European Sites.
21	Convene a Flooding Working Group to improve local flood protection (maintenance) and enhanced flood response (required resources). Examine areas where sustainable urban drainage systems (SUDS) and nature based solutions can be considered.
27	Support and participate in regular public events that will improve awareness around the impacts of climate change and ways that we can adapt. Work with PPN to identify relevant topics & communities with a key focus on message and communicating to vulnerable groups
Action No.	Action Description
30	Develop a Biodiversity Action Plan for Co. Sligo which addresses all of the relevant climate related issues, supports green and blue infrastructure, nature based solutions, integrates biodiversity considerations to new and existing developments, supports wildlife corridors and identification & implement appropriate actions. The implementation of the Biodiversity Plan will be underpinned by ecological surveys and assessments to ensure interventions are appropriate to the receiving environment.
31	Develop a register of Council owned properties that may be used for Nature based solutions, and implement actions, including the establishment of an annual native tree planting programme, over lifetime of LACAP that targets planting in appropriate place with appropriate planting mixes. .
new action	Work in partnership with relevant stakeholders to develop and progress future-proofing projects/initiatives with particular focus and support for projects and initiatives that provide co benefits to other environmental resources such a water, air quality, human health, biodiversity and landscape.
New action	With respect to DZ actions, ensure that they are aligned with the conservation objectives for the Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA

9 Monitoring

9.1 Introduction

It is proposed, in accordance with the SEA Directive, to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water pollution levels. Monitoring will focus on the aspects of the environment that are likely to be significantly impacted upon by the implementation of the CAP 2024-2029.

The targets and indicators are derived from the Strategic Environmental Objectives (SEOs) discussed in Chapter Five. The target underpins the objective whilst the indicators are used to track the progress of the objective and targets in terms of monitoring of impacts.

The monitoring programme will consist of an assessment of the relevant indicators and targets against the data relating to each environmental component. Similarly, monitoring will be carried out frequently to ensure that any changes to the environment can be identified.

This Climate Action Plan will be implemented by Sligo County Council. Implementation of the LACAP and in turn monitoring and reporting will be pivotal in demonstrating commitment and leadership in climate action at the local level.

A key part of the CAP is the provision of key performance indicators (KPIs) and annual reporting. Therefore, the suggested monitoring table below, whilst adapted for the SEA monitoring prepared for the draft County Development Plan should cross reference and integrate the KPIs identified for the CAP 2024 -2029.

Key implementation and reporting activities that Sligo County Council will undertake are:

1. **Planning for Implementation:** Devising an approach for the implementation of actions on an annual basis.
2. **Tracking and reporting progress through Key Performance Indicators:** Development and inclusion of plan level KPIs to track, measure and report on progress.

TABLE 9-1 MONITORING TABLE FROM DRAFT SLIGO CDP 2024 -2030 SEA MONITORING TABLE

Topic	Target	Indicators	Sources	Remedial Actions
Biodiversity Flora and Fauna	<p>Condition of European sites</p> <p>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 SEAs and AAs as relevant for new Council policies, plans, programmes etc.</p> <p>Status of water quality in the County’s water bodies</p> <p>Compliance of planning permissions with Plan measures providing for the protection of Biodiversity and flora and fauna – see Chapter 24 “Natural Heritage</p>	<p>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</p> <p>Implement and review, as relevant, County Sligo Local Biodiversity Action Plan</p> <p>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</p> <p>Implement and review, as relevant, County Sligo Local Biodiversity Action Plan</p> <p>Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.</p> <p>Included under Water below</p>	<p>DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years) 109</p> <p>DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)</p> <p>Consultations with the NPWS</p> <p>Internal review of local land use plans</p> <p>Internal monitoring of preparation of local land use plans</p> <p>Included under Water below</p> <p>Internal monitoring of likely significant environmental effects of grants of permission</p>	<p>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.</p> <p>Review internal systems</p> <p>Review internal systems</p> <p>Included under Water below</p> <p>Review internal system</p>

Topic	Target	Indicators	Sources	Remedial Actions
		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 24 “Natural Heritage”		
Population and Human Health	<p>Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 7 “Economic Strategy” and Chapter 28 “Economic Development”</p> <p>Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan</p> <p>Proportion of people reporting regular cycling / walking to school and work above previous CSO figures</p> <p>Number of spatial plans that include specific green infrastructure mapping</p>	<p>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 7 “Economic Strategy” and Chapter 28 “Economic Development”</p> <p>No spatial concentrations of health problems arising from environment</p> <p>Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures</p> <p>Require all local level land use plans to include specific green infrastructure mapping.</p>	<p>CSO data</p> <p>Monitoring of Sligo County Council’s Climate Change Adaptation Strategy 2019-2024 and new CAP 2024 -2030</p> <p>KPIs</p> <p>Internal review of local land use plan</p>	<p>Review internal system</p> <p>Where proportion of population shows increase in private car use above Previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response</p>
Soil and Geology	<p>Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets)</p> <p>Instances where contaminated material generated from brownfield and infill must be</p>	<p>Maintain built surface cover nationally to below the EU average of 4% as per the NPF</p> <p>In accordance with National Policy Objectives 3c of the National Planning Framework, a minimum of 30% of the housing</p>	<p>EPA Geoportal</p> <p>Compilation of greenfield and brownfield development for the DHLGH</p> <p>AA/Screening for AA for each application</p>	<p>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</p>

Topic	Target	Indicators	Sources	Remedial Actions
	disposed of Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission	<p>growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement</p> <p>To map brownfield and infill land parcels across the County</p> <p>Dispose of contaminated material in compliance with EPA guidance and waste management requirements</p> <p>Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission</p>	<p>Internal review of grants of permission where contaminated material must be disposed of</p> <p>Internal monitoring of grants of permission</p>	<p>reasons and coordinate actions to address constraints to doing so.</p> <p>Consultations with the EPA and Development Management</p> <p>Review internal system</p>
Water	<p>Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD</p> <p>Number developments permitted within flood risk areas</p>	<p>Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status'</p> <p>Implementation of the objectives of the River Basin Management Plan</p> <p>Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>PA Monitoring Programme for WFD compliance</p> <p>Internal monitoring of likely significant environmental effects of grants of permission</p>	<p>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, Uisce Éireann 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.</p> <p>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</p>

Topic	Target	Indicators	Sources	Remedial Actions
				<p>Uisce Éireann to achieve the necessary capacity.</p> <p>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.</p>
Material Assets	<p>Programmed delivery of Uisce Assets</p> <p>Éireann infrastructure for all key growth towns in line with Uisce Éireann Investment Plan and prioritisation programme to ensure sustainable growth can be accommodated</p> <p>Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan</p> <p>Proportion of people reporting regular cycling / walking to school and work above previous CSO figures</p>	<p>All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan</p> <p>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</p> <p>Facilitate, as appropriate, Uisce Éireann in developing water and infrastructure wastewater</p> <p>See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health</p>	<p>Internal monitoring of likely significant environmental effects of grants of permission</p> <p>Consultations with the Uisce Éireann</p> <p>DHLGH in conjunction with Local Authorities</p> <p>SO data</p> <p>Monitoring of Sligo County Council’s Climate Change Adaptation Strategy 2019-2024 and new CAP 2024 -2030</p> <p>KPIs</p>	<p>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 Uisce Éireann to achieve the necessary capacity.</p> <p>Where proportion of population shows increase in private car use above Previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</p>

Topic	Target	Indicators	Sources	Remedial Actions
		Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures		
Air	Proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels NOx, SOx, PM10 and PM2.5 as part of Ambient Air Quality Monitoring	Decrease in proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels Improvement in Air Quality trends, particularly in relation to transport related emissions of NOx and particulate matter	CSO data Data from the National Travel Survey EPA Air Quality Monitoring Consultations with Department of Transport and DECC	Where proportion of population shows increase in private car use above Previous CSO 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
Climate Change	Implementation of Plan measures relating to climate reduction targets A competitive, climate-resilient environmentally economy Share of renewable energy in Transport Energy consumption, the uptake of renewable options and solid fuels for residential heating Proportion of journeys made by private fossil fuel-based car compared to previous level Proportion of people reporting regular cycling / walking to school and work above previous CSO figures	Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050 Review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets – including the legally binding targets of the Climate Action and Low Carbon Development) Act 2015, as amended, for Ireland to reach a target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels).	CSO data Monitoring of Sligo County Council’s Climate Change Adaptation Strategy 2019-2024 and new CAP 2024 KPIs Consultations with DECC	Where trends toward carbon reduction are not recorded, the Council will liaise with the Regional Assembly and the Atlantic Seaboard Climate Action Regional Office to establish reasons and develop solutions. Where proportion of population shows increase in private car use above Previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response

Topic	Target	Indicators	Sources	Remedial Actions
		<p>Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based car compared to previous levels</p> <p>Share of renewable energy in transport Targets</p> <p>Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures</p>		
Cultural Heritage	<p>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.</p> <p>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.</p>	<p>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</p> <p>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</p>	<p>Internal monitoring of likely significant environmental effects of grants of permission</p> <p>Internal monitoring with DHHLG</p>	<p>Where monitoring reveals visitor pressure is causing negative effects on key tourist features along these routes, the Council will work with Regional Assembly, Fáilte Ireland and other stakeholders to address the pressures through additional mitigation tailored to the plans</p>
Landscape	<p>Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape</p>	<p>No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land</p>	<p>Internal monitoring of likely significant environmental effects of grants of permission</p>	<p>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</p>

Topic	Target	Indicators	Sources	Remedial Actions
	and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan	Use Plans, resulting from development which is granted permission under the Plan		

Annex A: Assessment matrix

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
1	Implement ISO 50001 Energy Management System across the entire organisation to continually improve energy management standards & performance to achieve the 2030 targets (50% energy reduction & 51% GHG emission reduction from a 2016-2018 baseline).	0	↑	0	0	↑	0	0	0	↑
2	Support and Implement Digitization across the organisation	0	↑	0	0	↑	0	0	0	↑
3	Support & implement the objectives and actions of the National Waste Management Plan for a Circular Economy, as they relate to Sligo	0	↑	0	↑	↑	0	0	↑	↑
4	Continue the provision of climate friendly schemes like Green for Business and Energy Efficiency Grant schemes and provide information, training & support to new & existing businesses to improve sustainability & energy efficiency	0	↑	0	0	↑	0	0	0	↑
5	Include 'Sustainability and Climate Change' criteria on relevant LA grant conditions.	0	↑	0	0	↑	0	0	0	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
<p>SEA comment</p> <p>For many of these actions, the impacts are consistent with achieving the PHH, AQ.C in particular as they relate to improving energy efficiency, GHG emissions through the local authority structure and governance. Actions around capacity building and training are positive for these SEOS directly and indirectly as they increase understanding about climate change and means to address same. For most of the other SEOS, impacts are neutral as they provide no direct landuse actions/impacts or are not identified in terms of location or area. The range of impacts will vary according to the potential use; however, for most of these SEOs, the impacts are considered to be addressed through mitigation at development management level and application of relevant mitigatory measures through the draft County Development Plan such as Actions are recommended for mitigation in response to SEA Scoping submissions and more broadly to improve environmental performance, and increase consideration of ecological effects, nature based solutions. These are below:</p> <p>new action</p> <p>In implementing this County Sligo Climate Action Plan, ensure compliance with forthcoming Sligo County Development Plan 2024-2030 and current CDP and local area plan objectives and policies relating to environmental management, the protection of statutory Conservation Areas and ensure compliance with specific environmental management measures relating to this plan. Landuse plans and projects arising from this Climate Action Plan will be underpinned by Strategic Environmental Assessment, Environmental Impact Assessment, Appropriate Assessment, and Ecological Impact Assessments as relevant.</p> <p>new action</p> <p>Sligo County Council will take account of any relevant recommendations in the EPA State of Our Environment Report 2024, once published, in implementing the Plan over its lifetime.</p> <p>new action</p> <p>Sligo County Council will consider any relevant updated actions, measures or recommendations that may arise in updates to the National Climate Action Plan over the lifetime of the Plan.</p>										
Governance										
Action No.	Action Description									
6	Ensure that Blended Working policy is applied with a view to reducing energy use & emissions to the greatest extent possible	0	↑	0	0	↑	0	0	0	↑
7	Ensure that all Environmental & Climate related objectives in the County Development Plan (CDP) are supported, pursued & implemented.	⇅↑	↑	⇅↑	⇅↑	↑	↑	↑0	⇅↑	↑
8	Ensure that Green Public Procurement guidelines are implemented fully across all procurement carried out by or on behalf of Sligo County Council	0	↑	0	0	↑	0	0	0	↑
9	Ensure that climate change is fully incorporated in to the Major Emergency Plan during review.	⇅↑	↑	⇅↑	⇅↑	↑	↑	↑0	⇅↑	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
<p>SEA comment: actions 6 and 8 are largely neutral for SEOS but positive for consistency with PHH, AQ CC, MA SEOS. Implementation of all CDP policies and achievement of same is a strong commitment to cross cutting climate action and this interacts positively across all SEOS for medium to longer term impacts; particularly where these have been considered in terms of co benefits for other environmental topics and underpinned by appropriate ecological and environmental surveys and assessment. Application of good practice in NBS is important to achieve this and key references should be consulted such as the Compendium of Nature Based Solutions (Grow Green, 2020) Compendium of nature-based and 'grey' solutions - GrowGreen (growgreenproject.eu) Where landuse effects will from projects through actions 7 and 9, in addition to the above, mitigation in the draft CDP will apply and provide sufficient environmental protection including land use zonings and policies including P-BD-3 <i>Ensure that the ecological impact of all development proposals on habitats and species are appropriately assessed by suitably qualified professionals, in accordance with best practice guidelines, taking full account of the precautionary principle where uncertainty exists.</i></p>										
Built Environment & Energy										
Action No.	Action Description									
10	Ensure that the Social Housing Retrofitting Program is completed each year, and expanded where possible.	0	↑	0	↑	↑	0	0	↑	↑
11	Identify potential energy saving initiatives that can be applied to social housing stock and carry out pilots before extension to all stock	0	↑	0	↑	↑	0	0	↑	↑
12	Achieve energy efficiency objectives of Housing Delivery Action Plan	0	↑	0	↑	↑	0	0	↑	↑
13	Work with Regional Energy Bureau to develop grant applications for SEAI Pathfinder grant programmes, and implement decarbonisation projects on Local Authority buildings	0	↑	0	↑	↑	0	0	0	↑
14	Ensure all public lighting is retrofitted to low energy lamps and that the system is monitoring and managed to maximise energy efficiency with due regard to impacts on biodiversity	↕	↑	0	↑	↑	0	0	↑	↑
15	Continue to support the operation of the Sligo Leitrim Energy Agency in their primary mission to increase the rate of housing retrofitting	0	↑	0	↑	↑	0	0	↑	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
16	Continue to work with Sligo SEC partners on exploring the potential for developing a green gas network and a biogas facility in Sligo.	0	↑	0	↑	↑	0	0	0	↑
17	Support independently run, but publicly owned facilities to improve energy efficiency & reduce their emissions.	0	↑	0	↑	↑	0	0	0	↑
18	Identify & register heritage sites that are at risk from climate related weather events	0	↑	0	↑	↑	0	↑	0	↑
19	Actively encourage the use of online & virtual methods for suitable meetings & training courses	0	↑	0	↑	↑	0	0	0	↑
<p>SEA comment: actions are broadly positive with PHH, AC C and Interrelationships between these; for some actions around retrofitting existing housing stock, positive interactions are identified for SG and MA as these extend the lifetime of the housing stock, reducing the need for new build and greenfield development and supporting a circular economy approach.</p> <p>Action 14 is recommended for mitigation to increase protection and reduce adverse effects on wildlife associated with lighting.</p> <p>Action 16 is exploration and research based, and not landuse orientated at this time.</p>										
Action No.	Action Description									
20	Continue to monitor coastal erosion along Sligo shoreline and maintain existing sea defences considering application of nature based solutions and in line with conservation management objectives of European Sites.	↕	↑	↕	↕	↑	↕	↕	↑	↑
21	Convene a Flooding Working Group to improve local flood protection (maintenance) and enhanced flood response (required resources). Examine areas where sustainable urban drainage systems (SUDS) and nature based solutions can be considered.	↕	↑	↕	↕	↑	↕	↕	↑	↑
22	Support the implementation of all climate/energy/sustainability related actions contained within the Local Economic & Community Plan (LECP).	↕	↑	↕	↕	↑	↕	↕	↑	↑
23	Deliver the Community Climate Action Fund and ensure full use of available resources	↕	↑	↕	↕	↑	↕	↕	↑	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
24	Develop & deliver staff climate awareness campaign that will assist staff with implementing good practice in the workplace and at home.	0	↑	0	↑	↑	0	0	0	↑
25	Support the formation of new Sustainable Energy Communities, and provide support to develop their Energy Master Plans (EMPs)	0	↑	0	↑	↑	0	0	0	↑
26	Continue to work with ATU to establish and support a climate forum for young people	0	↑	0	↑	↑	0	0	0	↑
27	Support and participate in regular public events that will improve awareness around the impacts of climate change and ways that we can adapt. Work with PPN to identify relevant topics & communities with a key focus on message and communicating to vulnerable groups	0	↕	0	↑	↑	0	0	0	↑
28	Continue to promote & support the Green Club Programme	0	↑	0	↑	↑	0	0	0	↑
29	Continue to promote & support the Green Schools programme	0	↑	0	↑	↑	0	0	0	↑
<p>SEA comment:</p> <p>Actions 20 and 21 are recommended for mitigation to increase co benefits and nature based solutions considerations as impacts from coastal interventions can be over engineered and give rise to adverse effects of parameters including habitats, cultural heritage (loss/damage to coastal vernacular or industrial heritage features), whilst mitigation in the Draft CDP would apply, stronger text is recommended in this instance.</p> <p>Action 27 similarly seeks to reflect the EPA submission at Scoping stage to highlight the importance of communications with key vulnerable groups within the community. Other measures are positive for PHH AQ CC predominantly.</p>										
Action No.	Action Description									
30	Develop a Biodiversity Action Plan for Co. Sligo which addresses all of the relevant climate related issues, supports green and blue infrastructure, nature based solutions, integrates biodiversity considerations to new and existing developments, supports wildlife corridors and identification & implement appropriate	↕	↑	↑	↑	↑	↕	↕	↑	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
	actions. The implementation of the Biodiversity Plan will be underpinned by ecological surveys and assessments to ensure interventions are appropriate to the receiving environment.									
31	Develop a register of Council owned properties that may be used for Nature based solutions, and implement actions, including the establishment of an annual native tree planting programme, over lifetime of LACAP that targets planting in appropriate place with appropriate planting mixes.	↑	↑	↑	↑	↑	↑	↕	↑	↑
32	Complete the work of the SCORE project with ATU (ends July 2025) and identify ways of continuing the work of the Coastal City Living Laboratory model.	0	↑	0	↑	↑	0	0	0	↑
33	Expand roll out of Weather Impact Register (WIRE) app to gather extreme weather event related data	0	↑	0	↑	↑	0	0	0	↑
34	Create working group on Nature Based Solutions to identify suitable options and explore their use and expansion within the County	0	↑	0	↑	↑	0	0	0	↑
<p>SEA comment: Positive across all SEOS with cumulative positive effects with the focus on nature based solutions whilst others do not give rise to land use effects, relating to creation of working group (Action 34) and research.</p> <p>Key to successful NBS is understanding the existing baseline and application of appropriate good practice measures. In this regard, reference should be made to the Grow Green (2020) Compendium of Nature Based Solutions which provides descriptions, profiles, research on ecosystem services and other benefits plus reference to relevant case studies.</p> <p>Action 30 and 31 recommended for mitigation to focus the response in terms of tree planting in the right place with the correct/appropriate mix and Action 30 to support more clarity and detail in terms of the Biodiversity plan and its actions.</p>										
Action No.	Action Description									
35	Develop a comprehensive Electric Vehicle Charging Strategy for Co. Sligo & implement relevant actions	0	↑	0	↑	↑	0	0	0	↑
36	Deliver on existing multi-annual Active Travel programme and continue to work for future expansion of the network.	↕	↑	↕	↕	↑	↕	↕	↑	↑

Action No.	Action Description	BFF	PHH	W	SG	AQ CC	L	CH	MA	IR
37	Develop & implement a fleet decarbonisation strategy									
38	Develop Sustainable Travel Mobility Hubs and promote shared mobility solutions that will allow for the move away from private car ownership	0	↑	0	↑	↑	0	0	0	↑

SEA Comment: For many of these actions, the impacts are consistent with achieving the PHH, AQ C in particular as they relate to modal shift, reducing GHG emissions through EV Strategy and critically active travel measures.
For most of the other SEOS, impacts are neutral as they provide no direct landuse actions/impacts or are not identified in terms of location or area. The range of impacts will vary according to the potential use; however, for most of these SEOs, the impacts are considered to be addressed through mitigation at development management level and application of relevant.

		BFF	PHH	W	SG	AQ C	L	CH	IR	
1	Establish DZ Committee (Connected Project)	0	↑	0	↑	↑	0	0	0	↑
2	Develop tool kit for communities	0	↑	0	↑	↑	0	0	0	↑
3	Identify at least 3 pilot projects that will demonstrate practical decarbonisation in different aspects of the DZ.	0	↑	0	↑	↑	0	0	0	↑
4	Ensure that the development of the Cranmore Community Centre is carried out to the highest sustainability & energy efficiency standards	0	↑	0	↑	↑	0	0	0	↑
5	Identify existing community groups within the DZ and engage with them regarding climate & energy related matters that they have identified as being a priority for their group.	0	↑	0	↑	↑	0	0	0	↑

6	Commission a detailed study on the potential for carbon sequestration within the DZ	0	↑	0	↑	↑	0	0	0	↑
7	Identify publicly owned properties that could potentially be used for community climate projects including nature based solutions	⇅	↑	⇅	⇅	↑	⇅	⇅	↑	↑
8	Commission a District Heating feasibility study	0	↑	0	↑	↑	0	0	0	↑
new action	Work in partnership with relevant stakeholders to develop and progress future-proofing projects/initiatives with particular focus and support for projects and initiatives that provide co benefits to other environmental resources such a water, air quality, human health, biodiversity and landscape.	⇅	↑	⇅	⇅	↑	⇅	⇅	↑	↑
	With respect to DZ actions, ensure that they are aligned with the conservation objectives for the									
	Lough Gill SAC,Cummeen									
	Strand/Drumcliff Bay (Sligo Bay) SAC									
	Cummeen Strand SPA									

SEA comment: for several actions no direct landuse effects identified, but positive for PHH, AC C to address fuel poverty and awareness raising . actions recommended for mitigation is 9. And new action to support compliance with Habitats and Birds Directive.

