

DRAFT LAND USE STRATEGIC IMPLEMENTATION PLAN

Draft Strategic Environmental Assessment Environmental Report

Prepared for:

Coillte



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DRAFT STRATEGIC ENVIRONMENTAL ASSESSMENT ENVIRONMENTAL REPORT FOR THE DRAFT LAND USE STRATEGIC IMPLEMENTATION PLAN

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Abstract: Fehily Timoney and Company is pleased to submit this Draft Strategic Environmental Assessment Environmental Report for Coillte's Draft Land Use Strategic Implementation Plan.

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NON-TECHNICAL SUMMARY

Introduction

This is the Non-Technical Summary of the Draft Strategic Environmental Assessment (SEA) Environmental Report prepared for Coillte's Draft Land Use Strategic Implementation Plan (herein referred to as 'LUSIP' or 'the Plan'). The purpose of this report is to identify and evaluate the likely, significant environmental effects of implementation of the Draft LUSIP.

Approach to SEA

The SEA process can be defined by four stages, all of which include some level of consultation with stakeholders and the public. These stages are defined as:

- Stage 1 – Screening: deciding whether an SEA is required, or not.
- Stage 2 – Scoping: establishing the spatial and temporal scope of the SEA and a decision-making framework that can be used to evaluate impacts.
- Stage 3 – Identification, Prediction, Considerations of Alternatives, Evaluation and Mitigation of Potential Impacts.
- Stage 4 – Consultation, Revision and Post-Adoption. This includes the implementation of statutory SEA monitoring.

Coillte have completed Stage 1 - Screening and Stage 2 - Scoping, of the SEA process. This SEA Environmental Report documents Stage 3 of the SEA process.

The SEA process ran in parallel with the Appropriate Assessment (AA) process, which is an assessment process focusing on the potential effects of a plan or project on sites designated for nature protection known as 'European Sites.'

The Plan

Coillte published a strategic vision for the organisation in 2022 titled *Strategic Vision for Our Future Forest Estate*. This vision outlines the organisations ambitions and commitment to the sustainable management of Coillte's estate to 2050 and beyond, based on delivering the multiple benefits of forests to society; including climate mitigation, biodiversity enhancement, sustainable timber production, and public recreation, while ensuring Coillte remains financially sustainable and socially responsible. Coillte's approach to develop a balanced strategic vision for forestry and land-use is underpinned by four key pillars and their associated ambitions, including: Forests for Climate, Forests for Nature, Forests for Wood, and Forests for People.

Striving to realise their vision, Coillte developed the *Forest Estate Strategic Land Use Plan (FESLUP) 2023 - 2050*, which provided the framework that outlines the strategic objectives to balance the delivery of the organisation's ambitions until 2050. The FESLUP outlines a roadmap, focusing on creating a resilient forest estate that delivers environmental, social, and economic benefits. The FESLUP has already been subject to a full SEA.

The LUSIP is the next step within Coillte's strategic planning hierarchy, translating the high-level ambitions and objectives outlined in the FESLUP into implementable and measurable actions over the period of 2026-2035.



The primary purpose of this LUSIP is to bridge the gap between strategy and implementation, making sure Coillte's long-term vision is realised based on a structured and collaborative approach that includes Coillte Forest and Land Solutions.

The Environmental Baseline

An evaluation and characterisation of the current state of the environment likely to be affected by the Plan has been undertaken to inform the SEA process.

The proposed SEA study area or zone of influence has been identified and include the entire area of the Republic of Ireland and surrounding areas that may theoretically be affected from implementation of the Plan, which has been conservatively assumed to be 12 nautical miles for the Republic of Ireland's coastline (i.e. Ireland's territorial waters), 25 km from Ireland's border with Northern Ireland (NI), and inclusive of all environmental features in Northern Ireland which are hydrologically connected to the Plan area.

The following Environmental Components were considered during this evaluation:

- Population, Human Health and the Economy
- Biodiversity, Flora and Fauna
- Landscape, Seascape and Visual Amenity
- Cultural Heritage - Archaeological and Architectural
- Soils and Geology
- Land Use
- Air Quality and Noise
- Water
- Material Assets
- Tourism and Recreation
- Climate Change

A non-technical summary of the baseline environment for each environmental component and Northern Ireland is provided in the table below.

Environmental Component	Summary of the Baseline Environmental Characteristics
Population, Human Health and the Economy	• In the 2022 Census, the total population of Ireland was ca. 5.15 million people. This shows an increasing population trend since the previous census with an 8.1% increase. At a local authority level, the growth rate varies but all show increased population growth. The population of Ireland is predicted to reach 7.005 million people by 2057 under a high net migration scenario. • The percentage of people reporting their general health status as either 'very good' or 'good' decreased by 4% between census periods and was 83% in 2022. The ageing population in Ireland poses a threat to future healthcare demand and associated public health expenditure.



Environmental Component	Summary of the Baseline Environmental Characteristics
	There has been a decreasing trend of unemployment in Ireland since the high levels experienced during the Covid-19 Pandemic. Ireland is experiencing an economic recovery since the pandemic; this recovery is however being impacted by the war in Ukraine that is causing high inflation levels globally. It is predicted that the future economic outlook of Ireland is positive.
Biodiversity, Flora and Fauna	- There are six National Parks within Ireland and 78 Nature reserves. - There are currently 441 designated SACs, and 167 SPAs within Ireland. - There are presently 45 designated RAMSAR sites in Ireland. - There are 171 designated NHAs, and 623 pNHAs in Ireland. - There are an estimated 178 Tree Preservation Orders, 65 Flora Protection Order Sites, 68 Wildfowl Sanctuaries, and 19 proposed OSPAR Marine Protected Areas within the State. - The total forested area in Ireland is ca. 808,848 ha. It is estimated that 21% of this area (ca. 169,858 ha) can be categorised as native forest (>80% of native species present) and 12% of this area (ca. 97,061 ha) can be categorised as mixed forest (20 - 80% native tree species present). Native forests cover 2.5% of the national land area of Ireland. - Ireland has 54 bird species on the Birds of Conservation Concern in Ireland (BoCCI) red list. There are 80 bird species on the amber list.
Landscape, Seascape and Visual Amenity	- There are six areas designated and recognised as nationally important landscapes within the Republic of Ireland. All of these are National Parks. Ireland has no Areas of Outstanding Natural Beauty (AONB). - There are 13 different Irish seascape character types, within 17 regional seascape character areas.
Cultural Heritage - Archaeological and Architectural	- There are 150,800 Recorded Monuments within Ireland. There are over 50,000 heritage listings on the National Inventory of Architectural Heritage (NIAH). - Ireland has two UNESCO World Heritage sites: Brú na Bóinne and Sceilg Mhichíl. There are currently four sites on the tentative list. Ireland has three UNESCO Geoparks: The Marbles Arch Caves, The Copper Coast, and The Burren and Cliffs of Moher Geoparks.
Soils and Geology	- The geology of Ireland varies greatly, comprising of a low-lying central limestone plain that is surrounded by coastal mountains. The mountains to the north-west (Galway, Mayo and Donegal) and east (Wicklow Mountains) are comprised of granite. The north-east of Ireland is covered in a basalt plateau and to the south, the mountains run in an east-west direction and is largely composed of a red sandstone rock. - Subsoils in Ireland are made up of glacial and post-glacial sediments, with glacial till making up the majority of subsoil.



Environmental Component	Summary of the Baseline Environmental Characteristics
	The quality of Irish soils is considered generally 'good' in terms of its physical, chemical and biological parameters. There are, however, pressures that impact on its long-term health, such as population growth and land-use changes including agriculture, afforestation/reforestation. Soil contamination can also occur from leakages, spillages from industry, old mining sites and landfills. Diffuse pollution will usually arise from primary activities such as agriculture, forestry and horticulture.
Land Use	- Improved Grassland is the single most dominant land cover type in Ireland, covering 41.53% of the total national area. This is followed by Wet Grassland (9.47%) then Cultivated Land (6.05%). - It is estimated that 11.6% of Ireland's land area is Forestry. There is a commitment by the government to increase this to 18% by 2050. 49.1% of forests within Ireland are publicly owned.
Air Quality and Noise	- The Air Quality in Ireland 2023 report prepared by the EPA identified that there is national compliance with current EU standards, with no pollutant exceeding the EU legal limit values. However, there are localised areas of pollution which are a concern. - Fine particulate matter (PM2.5) from solid fuel combustion and nitrogen dioxide (NO₂) from vehicle emissions are the main pollutants of concern in Ireland, as well as Ammonia (NH₃) emissions from agriculture. - Ireland's ambition in the Clean Air Strategy is to move to alignment the WHO Air Quality guideline limits. At present, Ireland is not on track to achieve the interim targets in the guidelines that they aimed to achieve by 2026. Moving forward, the achievement of future targets will be very challenging. - The fourth round of Noise mapping in Ireland was undertaken and the results can be seen in Figure 4-18 within the main body of the report.
Water	- There are over 4,810 surface and groundwater bodies in Ireland. The latest water quality assessment by the EPA for the period 2016-2021 shows that over half (54%) of Ireland's surface waters are in good or better ecological status which means that nearly half (46%) are in unsatisfactory condition. There has been a 1% decline in the ecological health of monitored river water bodies since the 2013-2018 period. Of Ireland's surface waters the coastal waters have the highest percentage of waters at high or good ecological status (81%) while estuarine waters have the worst (36%). - The majority of Ireland's population live on or near the coast and this creates pressure for transitional waters. Pollution from agricultural runoff (nitrates, phosphates etc.) and urban wastewater pose the biggest threat to transitional and coastal waters. - The EPA's 2023 Water Quality Indicators Report found total phosphorus concentration to be a concern for rivers and lakes, and elevated nitrogen levels to be of concern for estuaries. - Forestry has been identified by the EPA as the third most prevalent significant pressure on waterbodies.



Environmental Component	Summary of the Baseline Environmental Characteristics
	- As of 2025, there are 153 monitored bathing water quality sites. In 2024 96% of the 151 monitored sites met or exceeded the minimum requirement of 'sufficient'. - Flooding, particularly from fluvial and coastal sources, is an increasing problem in Ireland. The OPW is the lead agency tasked with the management of flood risk in Ireland.
Material Assets	- Coillte own and manage ca. 440,000 ha of land in Ireland. 84% of this is forested land, with non-forested land consisting of a range of land-cover types unsuitable for afforestation. These include upland heaths and bogs, lakes, ponds and swamps. - In 2020 Coillte planted 22 million trees and reforested over 9,000 ha of new forest across Ireland. 2.31 million m3 of Roundwood for consumer purposes was produced. - According to COFORD's All Ireland Roundwood Production Forecast 2021-2040, the potential wood mass available for energy and other uses in Ireland is 34.78 million m3 over the forecast period. Biomass energy is considered a renewable energy source, on the condition that the forests are sustainably managed and harvested trees are replaced. - For the energy sector to meet the 75% reductions in emissions (based on 2018 levels) by 2030, the share of renewable energy will need to be increased by 80%. - As of 2024, that there are over 300 wind farms in the Republic of Ireland, with a total installed capacity of 4,332.5 megawatts (MW). In 2023, 40.7% of Ireland's electricity supply was sourced from renewable energy (up from 38.6% in 2022), with over a third of total electricity sourced from wind energy.
Tourism and Recreation	- Tourism and recreation are influenced by a range of factors in Ireland. International tourism has increased in recent years. The greatest concerns for the tourism sector in 2024 were the rising costs of energy and payroll. - Faillte Ireland has recently published their four brand strategies which will define the spatial scope and spread of future tourism developments within Ireland. - Faillte Ireland recently launched the Climate Action Programme which will provide support and investment advice for tourism businesses to accelerate the decarbonisation of the tourism sector in line with national carbon emissions reduction targets. - Each Local Authority has a Tourism Strategy Statement and Workplan. These are aligned with local, regional and national strategies and plans.
Climate Change	The Government's Climate Action Plan 2025 includes a targeted 51% reduction in overall greenhouse gas emissions by 2030; setting Ireland on a path to reach net-zero emissions by no later than 2050.



Environmental Component	Summary of the Baseline Environmental Characteristics
	• The Land Use, Land-Use Change and Forestry (LULUCF) sector in Ireland is the fourth largest national source of GHG emissions. This is due to the large areas of drained organic soils and the exploitation of wetlands for peat extraction. Additionally, there has been a long-term decline in the area of land afforested annually. Current afforestation is well below the annual rate of 8,000 ha/year suggested in the 2024 Climate Action Plan (1,650 ha in 2023). There has also been an increased level of harvesting, which is only expected to further increase as forest planted during years where high afforestation previously occurred continue to mature. • The generation of renewable energy has been increasing over the past ten years, with a growth in the number of wind farms. Wind energy generation in Ireland has increased from 4,542 GWh in 2013 to 11,589 GWh in 2023.
Overview of Northern Irish Environmental Baseline	• The 2021 census found Northern Ireland to have a population of 1.9 million. This is predicted to increase to 2.003 million by 2046. The Republic of Ireland and Northern Ireland have similar economic and health trends. • The Republic of Ireland and Northern Ireland have similar baseline environments as they share a common biogeographic unit. Both countries share many environmental features such as waters, landscapes, flora, and fauna, due to this overlapping geographical connection. Both countries also face the similar environmental pressures. • The State of Nature 2023 report for Northern Ireland shows that NI is now one of the most nature-depleted countries in the world with 12% of species assessed, threatened with extinction. 54% of NI Nature Conservation Designation Areas are in favourable condition. Increasing pressures on the natural environment are contributing to unfavourable conditions for habitats and species. • There are several features of geological, natural and cultural heritage within Ireland which have transboundary connections to Northern Ireland that should be considered in relations to the Plan, such as UNESCO Geoparks (Cuilcagh Lakelands Geopark, Mourne Gullion Strangford Geopark) and the Royal Sites of Ireland. • Agriculture accounts for 75% of the land area in NI. • There is continued improvement in air quality, but problems do remain for nitrogen dioxide emissions due to transport and ammonia emissions from agriculture. Continued effort is required to reduce air pollution from key sources. • There has been a long-standing concern for water quality in Northern Ireland, with diffuse pollution from agriculture listed as the most significant pressure on water, particularly the release of phosphorus and nitrogen from agricultural sources. One noteworthy example of this issue is the impact diffuse pollution is having on Lough Neagh which is currently affected by recurrent algal blooms.



Environmental Component	Summary of the Baseline Environmental Characteristics
	- In 2024, 29% of river waterbodies, 24% of lake water bodies, and 40% of transitional and coastal waterbodies were classified as good or high ecological status. The target for 100% of surface water bodies in Northern Ireland to attain 'Good' or 'High' ecological status by 2027 will not be met. - There are numerous waterbodies which cross the Irish border that have the potential to cause transboundary impacts on aquatic environments within Northern Ireland. - Forestry is an important asset in NI due to the significant role it plays in tourism and recreation and regulation of the ecosystem. The tree-cover rates in NI (ca. 8%) are however, the lowest in the UK and lower than those in the EU. - The installed capacity of renewable energy in Northern Ireland is currently 1,276 MW. The NI Climate Change Act has set a target of 80% renewable energy by 2030, therefore requiring more than double the current renewable electricity generate to meet this demand. - Tourism Ireland aim to increase overseas tourism revenue across the island of Ireland by +5.6%1 growth per year on average over the period 2024 to 2030, growing revenue in NI by an average +6.5% per year over that period. - In 2022, Northern Ireland's total greenhouse gas emissions accounted for 5.3% of the UK total, whilst accounting for 2.8% of the UK's population. Agriculture plays a large role in high emissions due to the importance of agriculture in the country's economy. Buildings and product uses followed by domestic transport, and electricity supply are the next biggest emitters.

Section 4 of this SEA Environmental Report contains further detail on baseline environmental characteristics, including a variety of detailed baseline environment maps, for those who wish to develop a more in-depth understanding of the environmental baseline. Section 7 of the SEA Environmental Report contains a summary of the evaluation of the environmental effects of the implementation of the Plan, including a summary of the various positive impacts, (potential) negative impacts, and cumulative impacts associated with Plan implementation.

Evolution of the Baseline Environment

A non-technical summary of how the baseline environment is likely to evolve in absence of the LUSIP is provided below:

- The predicted future population of Ireland is highly influenced by future net migration per annum. It is predicted that under high net migration, the population will reach 7.005 million people by 2057. Under medium and low net migration this number drops to 6.446 million, and 5.734 million persons respectively.
- The ageing population in Ireland will cause a demographic shift in the country in future years that will increase demand for healthcare facilities and associated public healthcare expenditure.



- ESRI (Economic & Social Research Institute) has predicted a positive outlook for the Irish economy in the medium-term with a predicted increase in GDP and MDD (Modified Domestic Demand) in Ireland in the years ahead.
- Increasing land-use change such as urbanisation, afforestation and its associated management and changing agricultural practices are likely to continue to pose risks to the quality and distribution of aquatic and terrestrial habitats and species, both within and outside protected sites. However, the continued implementation of measures required in achieving the objectives of the Water Framework Directive (WFD) and the requirements of the Habitats Directive are likely to benefit protected sites and the wider aquatic environment in the future. The Water Action Plan and National Biodiversity Action Plan will also contribute to biodiversity protection and improvements.
- The conservation objectives developed by the NPWS for European sites, as well as other management plans for declining species (e.g., Threat Response Plans) will contribute to the critical changes needed to reverse biodiversity declines nationally and internationally.
- Increased impact to forests through windfall and storm damage as a results of increased extreme weather events due to Climate Change will be a key pressure on forest habitats going forward.
- Renewable energy development will influence and alter existing landscape and seascape throughout the country and in marine areas.
- The archaeological, architectural and cultural heritage within Ireland is a finite resource and protection of this resource is a continuous requirement set down in national legislation. Therefore, the existing cultural heritage environment is not expected to change significantly in the immediate future. New heritage related features may become known or be designated in the future. There are also sites on the UNESCO tentative list that may be designated in the near future.
- It is therefore envisaged geology of importance in the country will be provided further protection into the future.
- It is envisaged that measures will be implemented into the future to ensure the protection and enhancement of soil health.
- The future of Irish agriculture will evolve in line with societal, economic and environmental protection requirements. It is envisaged agricultural sustainability will improve in line with the legislative and plan/programme framework objectives (e.g., Food Vision, the Common Agriculture Policy Strategic Plan)
- It is envisaged national Climate Action Plan requirements will drive increasing levels of afforestation nationally into the long-term future.
- It is envisaged peatlands will be provided a greater level of protection and peatlands across the country will be restored in accordance with national ambitions.
- Although air quality in Ireland is good, there is potential for pollutants to rise above emerging limits/targets in the future. Residential and transport sector impacts on ambient air quality are expected to reduce in the long-term due society's transition to low or zero carbon housing and vehicles.
- Ireland currently has a good understanding of the causes of water pollution, due to the implementation of the WFD. Proposed future development must meet the requirements of the WFD and aim to drive improvements and maintenance of water quality in the short term and provide a basis for the continued maintenance of good status in the future. It is envisaged water quality in Ireland broadly will gradually improve in line with the objectives of the WFD, however pressures on and risks to water quality will need be addressed to ensure continued improvement.



- The high-level coordination and comprehensive set of tourism policies which are now clearly entrenched in the working processes of Failte Ireland and the local authorities lends itself to tourism having a more environmentally aware future. Additionally, Failte Ireland has developed a national tourism monitoring programme to further the current understanding of environmental impacts from tourism and have committed to providing the learning outcomes from this monitoring programme in the form of guidelines.
- Future changes in climate and associated impacts on sea level, rainfall patterns/intensity and river flow will influence flooding frequency and extent in the future.
- Climate change is also expected to cause an increase extreme weather events and wildfire that may impact the forestry sector.

Strategic Environmental Objectives

The SEA Directive states that an SEA should also look at *'the environmental protection objectives, established at International, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.'* The identification of environmental protection objectives relevant to a plan provides the basis for evaluating the significance of impacts during the SEA process. All environmental protection objectives relevant to the Plan have been identified.

Strategic Environmental Objectives (SEOs) are methodological measures which facilitate the development of targets against which the environmental effects of the LUSIP can be tested. SEOs are based on wider environmental protection objectives on local, regional, national, European and international level that are relevant to the LUSIP. They are high-level in nature and set strategic goals for environmental protection and improvement.

The development of SEOs for the LUSIP was appropriately informed by the SEA Scoping stage of the SEA process, including consultation with statutory Environmental Authorities.



All SEOs applicable to the LUSIP are presented in the table below.

Environmental Component	SEO Code	Strategic Environmental Objective
Overall	O1	Ensure, where appropriate, that lower-level plans and projects contribute to overall environmental monitoring processes within the LUSIP.
Population, Human Health & the Economy	PHH1	Minimize impacts from development and operations on population and human health.
	PHH2	Minimize impacts from development and operations on economic activity and growth.
	PHH3	Engage with local communities and provide areas for amenity and recreational uses to promote wellbeing and human health.
	PHH4	Contribute positively to the well-being of workers and local populations.
	PHH5	Promote economic growth within the forestry sector and contribute to job creation and business development in rural areas.
	PHH6	Provide sustainable, high-quality timber products to the Irish market to meet demand and in support of housing development.
Biodiversity, Flora & Fauna	B1	Ensure compliance with Habitats and Birds Directives, with regard to protection of European Sites and Annexed habitats and species ¹ as well as corresponding Northern Irish legislation.
	B2	Support Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species.
	B3	To avoid significant adverse impacts on semi-natural habitats, species, environmental features or other sustaining resources in designated national sites, non-designated locally important sites, and sites proposed for designation; in compliance with wildlife and invasive species legislation.
	B4	Go beyond biodiversity protection to deliver biodiversity enhancement and forest management for nature - in response to the biodiversity emergency and in line with the National Biodiversity Plan and its targets.
	B5	Manage old and ancient woodlands to enhance their biodiversity value.
Landscape, Seascape & Visual Amenity	L1	Contribute to the conservation, protection, enhancement and management of the character and quality of Ireland's distinctive landscape and seascape.
	L2	Minimise development impacts on sensitive and/or important landscapes/seascapes, including those designated under the land use planning framework.
	L3	Minimise adverse visual effects, including effects on sensitive visual receptors and views and prospects designated under the land use planning framework.

¹ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.



Environmental Component	SEO Code	Strategic Environmental Objective
Cultural Heritage	CH1	Protect and conserve archaeological heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Monuments and Places (RMP), the prospective Register of Monuments and the Northern Ireland Sites and Monuments Record (NISMR).
	CH2	Protect and conserve architectural heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Protected Structures (RPS) and National Inventory of Architectural Heritage (NIAH), industrial heritage, Architectural Conservation Areas (ACAs) and features/conservation areas designated in Northern Ireland.
	CH3	Promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical archaeological or architectural heritage where they arise.
Geology and Soils	GS1	Minimise adverse effects on soil functions and deliver soil enhancement.
	GS2	Minimise adverse effects on the physico-chemical properties of soil.
	GS3	Increase uptake of sustainable soil management practices that contribute to the preservation of soil and peatlands, aiding in achieving good soil quality and stability.
Land use	LU1	Minimize effects on other land use activities/objectives and promote sustainable land use.
Air Quality and Noise	AQN1	Minimize effects on local air quality.
	AQN2	Minimise adverse noise impacts on sensitive receptors.
Water	W1	Maintain and/or improve, the quality and status of surface water bodies, in line with Water Framework Directive requirements.
	W2	Maintain and/or improve, the chemical and quantitative status of groundwaters, in line with Water Framework Directive requirements.
	W3	Comply as appropriate with the provisions of the Flood Risk Management Guidelines.
	W4	Promote sustainable drainage practices to improve water quality and flow.
	W5	Prevent impacts upon drinking water quality.
	W6	Prevent impacts upon the status of transitional, coastal and marine waters in line with the requirements of the WFD, the MSFD and Northern Ireland's Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.
	W7	Maintain and/or improve bathing water quality.
Material Assets & Infrastructure	MA1	Minimise effects on or conflicts with local, regional and national material assets and infrastructure, including future, planned infrastructure.
	MA2	Promote sustainable travel and transport.
	MA3	Promote the effective and sustainable use of forest products.



Environmental Component	SEO Code	Strategic Environmental Objective
	MA4	Enable the delivery of renewable energy projects for the benefit of national energy demands - through its joint venture FuturEnergy Ireland and via land agreements with other renewable energy developers.
	MA5	Promote sustainable waste/material management and the circular economy.
Tourism & Recreation	TR1	Avoid or minimise adverse effects upon tourism and recreation amenities, and enhance tourism and recreation, where possible.
Climate Change	CC1	Contribute towards the reduction of greenhouse gas emissions and the delivery of renewable energy projects in line with national objectives and targets.
	CC2	Promote carbon sequestration in line with national objectives and targets.
	CC3	Reduce greenhouse gas emissions from forestry related transport operations.
	CC4	Integrate sustainable and low/zero carbon design solutions into Coillte development projects, where possible.
	CC5	Contribute to sectoral adaptation to the effects of climate change.
	CC7	Consider and appropriately manage the effects of climate change during development and forest planning processes.

Description and Evaluation of Plan Alternatives

The SEA Directive requires that reasonable alternative means of achieving the strategic goals of the Plan (considering the ambitions, strategic objectives and the geographical scope of the Plan) are identified, described and evaluated for their likely, significant effects on the environment. Such reasonable alternatives must be realistic and capable of implementation. Reasonable alternatives were assessed against the SEOs established for the aspects of the baseline environment which are likely to be significantly affected by the Plan.

The underpinning goal of the reasonable alternative evaluation process was to ensure that the selection of preferred alternatives by Coillte is informed by environmental considerations.

Reasonable alternatives to the Plan were identified as the Plan-making process evolved. Details on all Reasonable Alternatives considered during Plan-making and a summary of reasoning for selecting preferred alternatives are presented below.



Theme	Description of Reasonable Alternatives	Preferred Alternative	Main Reasons for Selecting Preferred Alternative
Scale of the Plan.	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan.	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan.	Development of a nationally scaled LUSIP that informs lower-order operational-level forestry planning would allow for better strategic planning and assessment, and the integration of environmental considerations into land use planning processes at an early and more appropriate stage of decision-making. This would allow for flexibility and adaptability when implementing the Plan.
	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units.		
Plan Duration.	Alternative 1: Implement the Plan over the duration of the Forest Estate Strategic Land Use Plan (2023 - 2050).	Alternative 2: Implement the Plan over a 10 year timeframe.	Adopting a 10 year Plan duration would allow Coillte to define more specific, measurable, achievable, realistic and targeted Actions. This level of Plan focus was considered optimal in the context of the FESLUP and lower-order forest planning processes at Coillte. It would allow for better monitoring of environmental effects and optimal environmental outcomes.
	Alternative 2: Implement the Plan over a 10 year timeframe.		
Focus of Plan Actions.	Alternative 1: Development of operationally focused Plan actions.	Alternative 2: Development of strategically focused Plan actions.	Defining strategically focused Plan Actions would better facilitate effective and focused SEA; allow for earlier consideration of environmental impacts in decision-making processes, in line with the principles of SEA; would support effective Plan implementation; and would be more likely to lead to the realization of strategic objectives, including objectives relating to climate mitigation, nature restoration and environmental protection.
	Alternative 2: Development of strategically focused Plan actions.		



Theme	Description of Reasonable Alternatives	Preferred Alternative	Main Reasons for Selecting Preferred Alternative
Measuring and Reporting of Plan Actions.	Alternative 1: Measuring/reporting at national level.	Alternative 3: Measuring/reporting at both national and Business Area Unit level.	This mixed approach allows Coillte to balance local and national priorities, ensuring that reporting remains both practical and meaningful. Overall, the approach chosen is more likely to lead to effective delivery of the Plan, including Coillte's ambitions to deliver climate mitigation, nature restoration and appropriate environmental protection.
	Alternative 2: Measuring/reporting at Business Area Unit level.		
	Alternative 3: Measuring/reporting at both national and Business Area Unit level.		



Evaluation of the Environmental Effects of the Plan Implementation

A detailed evaluation of the potential effects of the Plan on the baseline environment was carried out in accordance with the SEA Directive and best practice guidelines. A concise and non-technical summary of the key environmental effects associated with Plan implementation is presented below. The potential negative effects presented assume the absence of the appropriate mitigation defined in this Non-technical Summary and in Section 8 of this SEA Environmental Report.

Potential Positive Environmental Effects

- The plan defines a range of actions under the 'Forests for Climate' pillar that have the potential to generate positive effects for the climate environment. Several actions support the realisation of national afforestation ambitions. These actions have the potential to increase carbon sequestration levels nationally and decrease overall Greenhouse Gas (GHG) emissions associated with the Land Use, Land Use Change and Forestry sector, in line with the objectives of climate legislation and policy. Several actions will support, promote and drive peatland restoration/re-design projects,² which have the potential to contribute to increased GHG sequestration and reduced GHG emissions. These afforestation and peatland restoration/re-design actions have the potential to generate long-term, significant to profound positive effects on climate and inter-related environmental components (e.g., biodiversity, population and human health etc.).
- Plan actions promote climate adaptation through Coillte forestry/land use planning processes. This will support the prevention and reduction of the effects of climate change on forestry operations occurring on the Coillte estate (e.g., associated with extreme weather/storms, wildfire, flooding etc). This has the potential to generate long-term, significant to profound positive effects on population and human health and material assets (through ensuring the forest estate is protected and a reliable supply of wood product to the market), cultural heritage, biodiversity, soils, water quality and hydrology.
- Plan actions support the carrying out of renewable energy, grid infrastructure and energy storage development by FuturEnergy Ireland and other renewable energy developers on the Coillte estate. The development of this infrastructure has the potential to contribute substantially to Ireland's climate and renewable energy targets and may generate long-term, very significant to profound positive effects for climate and inter-related environmental components (e.g., biodiversity, population and human health etc.).
- Plan actions defined under the 'Forests for Wood' pillar promote, support and drive sustainable and indigenous forestry activity, afforestation and timber demand/production nationally. This has the potential to have a range of long-term, significant to profound positive environmental effects, including positive effects on climate (through increased afforestation and associated carbon sequestration), biodiversity, the water environment (through water regulation and filtration improving water quality), air quality, soils, material assets (through provision of wood product to the market for use in construction) and population and human health (through the creation of employment and increased economic activity).
- Various plan actions support the protection of commercial forestry assets on the Coillte estate (e.g., from storm damage, wildfire, disease etc.). The implementation of these actions has the potential to generate long-term, significant to profound positive effects on population and human and material assets (through the protection of commercial forestry, employment, livelihoods, timber production and supply).

² Subject to carbon-related financing.



- The plan defines a range of actions under the 'Forests for Nature' pillar that have the potential to generate long-term, significant to profound positive effects on biodiversity and inter-related environmental components (population and human health, water, soils etc.), including actions that support substantial nature restoration, effective and optimal biodiversity management/protection, sustainable forest management approaches, the protection of old and ancient woodland, water quality protection and improvement, enhancing the nitrogen cycle and invasive species management.
- The plan defines a range of actions under the 'Forests for People' pillar that support and drive the carrying out of tourism and recreation related development and activities on the Coillte estate, including strategic development. Tourism and recreation related development have the potential to generate long-term, positive environmental effects, including positive effects on population and human health (through increased economic activity, increased recreation/engagement with nature), cultural heritage (e.g. by creating synergies between the development and cultural heritage features) and tourism and recreation.
- Plan actions supporting the building of expertise and capacity in sustainable forest management, which has the potential to generate positive effects for population and human health (through the building expertise or mastery, the creation of livelihoods etc.) and materials assets (through the enhancement of the labour force that underpins and delivery sustainable forest and timber production and supply nationally).

Potential Negative Environmental Effects (in the absence of environmental mitigation)

- A range of plan actions across various Plan pillars support the expansion of forestry in Ireland. The range of activities associated with forestry, including road construction, afforestation, harvesting and reforestation may have temporary to long-term, slight to very significant, negative effects on population and human health (through visual impacts, nuisance etc.), biodiversity (habitat loss/fragmentation, species disturbance etc.), landscape/seascape (if forestry is not sited and designed appropriately), cultural heritage (potential interference with heritage features and their surrounding setting, or previously uncovered or unrecorded features of archaeological significance), soils (through compaction, sealing, erosion, loss of organic matter etc.), the air and noise environments, water quality and hydrology (through increase eutrophication, sedimentation, changes in hydrology etc.), material assets (e.g. impacts on or conflicts with existing or planned infrastructure), or tourism and recreation (through visual effects on scenic routes, for example).
- A range of actions defined in the Plan support and promote the carrying out of peatland restoration/re-design projects. Such projects, if improperly designed, implemented or maintained, have the potential to generate various negative effects on the environment, such as temporary to long-term, slight to very significant, negative effects on climate (through poor design negatively affecting greenhouse gas emission fluxes), biodiversity (e.g., habitat and species impacts associated with restoration works, aquatic species that may be affected by changes in hydrology), heritage features (including the physical integrity of existing and unrecorded features), soils, and water quality and hydrology (e.g., downstream alterations in water quality or hydrological conditions - if projects are not support by appropriate hydrological assessment, for example).



- Plan actions support the carrying out of renewable energy, grid infrastructure and energy storage development by FuturEnergy Ireland and other renewable energy developers on the Coillte estate. The development of this infrastructure, which will include impactful projects such as wind farms or linear grid connection projects, has the potential to generate a wide range of negative environmental effects in the absence of appropriate site selection, design, planning or maintenance, including temporary to long-term, slight to very significant, negative effects on population and human health (through visual impacts, shadow flicker or noise, for example), biodiversity (e.g., through habitat loss, bird strikes etc.), landscape/seascape, visual amenity, heritage (including the physical integrity of heritage features and the settings surrounding such features), soils (through excavations to accommodate built development e.g., wind farm foundations), the noise environment, water quality and hydrology, material assets (through impacts on or conflicts with other existing or planned infrastructure) and tourism and recreation (via impacts on scenic routes or landscape/seascape, for example). There is also the potential for negative effects on land-use through competing objectives for sustainable management practices to promote biodiversity enhancement and objectives for renewable energy production.
- Plans actions support the carrying out a range of nature restoration and biodiversity management relates projects and activities. These projects/activities, if mis-designed or mismanaged, may result in inadvertent, temporary to long-term, slight to very significant, negative effects on biodiversity.
- The plan defines a range of actions under the 'Forests for People' pillar that support and drive the carrying out of tourism and recreation related development and activities on the Coillte estate, including strategic development. Tourism and recreation related development have the potential to generate temporary to long-term, slight to very significant, negative effects on biodiversity (through increased human interaction with sensitive ecological receptors, noise, land-take, lighting etc.), population and human health (due to construction dust, noise, changes in traffic and transport dynamics), landscape and visual amenity (through the construction of sizeable built development at visually sensitive locations), cultural heritage (due to interactions between the development and the physical integrity and/or setting of unknown or recorded heritage features), soils, the air and noise environment, the water environment (due to construction phase run-off, changes in hydrology or additional wastewater loading in an wastewater catchment/agglomeration), material assets or climate (e.g., from construction embodied carbon, or due to the creation of unsustainable transport/travel patterns).

Transboundary Environmental Effects

Transboundary environmental effects were a fundamental consideration during the carrying out of the environmental assessment and form an intrinsic part of the detailed environmental assessment undertaken under this SEA. In the absence of any mitigation, the identified effects, as presented in the preceding section have the potential to also impact Northern Irish receptors within the defined study area, which includes all areas within 25 km of the Plan area (i.e. the national boundary of Ireland) in addition to environmental features in Northern Ireland which are hydrologically connected to the Plan area.

Mitigation Measures

Potential negative environmental effects that may occur as a result of the implementation of the Plan, in the absence of any mitigation, were identified.

The SEA Directive requires that mitigation measures to prevent, reduce and as fully as possible offset any potential significant negative environmental effects due to the implementation of a plan are defined.



Following the evaluation of the environmental effects of Plan implementation, the following forms of mitigation were adopted to mitigate the negative environments of the Plan:

- Mitigation through consideration of alternatives.
- Mitigation through integration of environmental considerations into the Plan.

The Plan-making process was carried out in parallel with the SEA and AA processes. Regular communication and interaction took place between the Environmental Assessment Team and the Plan-making Team. Environmental considerations that came to light during the SEA and AA processes, including consultation processes, were regularly communicated to the Plan-making Team during the Plan-making process.

A strong level of embedded environmental mitigation was found to be present in early drafts of the Plan. As necessary, additional environmental mitigation measures to mitigate the potential negative environmental effects of implementing the Plan were identified and then integrated into the Plan. The environmental assessment process was carried out in an iterative manner to ensure optimal Plan-making and environmental outcomes. Environmental considerations were also integrated into the Plan so as to facilitate maximising identified positive environmental effects of the Plan. Overall, three forms of environmental mitigation were integrated into the Plan, as follows:

1. Additional Actions relating to environmental protection were defined and integrated into the Plan.
2. Pre-existing Plan Actions were amended. Various initial Plan Actions have been amended to clarify environmental protection related obligations and environmental enhancement opportunities associated with the actions. The Actions have been better shaped to ensure that environmental considerations are appropriately taken into account during Plan implementation.
3. An Environmental Governance Framework (EGF) for the Plan was developed and integrated into the Plan. The environmental mitigation presented in this EGF is specific to the implementable actions defined in the LUSIP. The EGF has been developed cognisant of higher-order environmental mitigation defined in the FESLUP and inter-related plans and programmes, to ensure appropriate alignment between plans and programmes and avoid duplication of environmental mitigation requirements.

All embedded environmental mitigation and additional environmental defined is presented in Section 8 of this report.

Conclusions

The reasonable alternatives evaluation undertaken has resulted in the development of a Plan that achieves the best environmental outcomes in comparison to other reasonable alternatives considered.

The adoption of the environmental mitigation measures integrated into the Plan will appropriately prevent and reduce potential significant negative effects of the Plan on the environment.

No further mitigation measures are required for the Plan.

These environmental mitigation measures will also serve to appropriately prevent and reduce potential significant negative transboundary effects that may be transmitted to the Northern Irish environment.



Monitoring Measures

The SEA Directive requires that the environmental effects of the implementation of a plan are monitored in order *'to identify at an early-stage unforeseen effects, and to be able to undertake appropriate remedial action.'*

A series of indicators and targets were established for identified SEOs to enable ongoing monitoring and measurement of Plan implementation performance, the environmental effects of the implementation of the Plan and the efficacy of environmental mitigation measures. Such monitoring will be carried out periodically to support Plan implementation.

SEO indicators are simple and effective quantifiable indicators used to measure the environmental effects of implementing the Plan and the progress of SEOs and related targets. SEO targets set focused, measurable aims and thresholds that the Plan can support the achievement of.

SEOs and associated targets and indicators have been defined for the Plan. These are presented in Section 9 of the main body of the report.

Coillte are responsible for implementation of the SEA monitoring programme. The environmental effects (including positive, negative and cumulative effects) of Plan implementation will be monitored continuously utilising Coillte monitoring processes over the course of the Plan's lifetime. This monitoring will be carried out by Coillte's Forest & Land Solutions. Monitoring reports will be produced on an ongoing basis to document monitoring outcomes.

Where monitoring identifies that the implementation of the Plan is having a significant negative environmental effect, an in-depth review of the Plan should take place and the Plan should be updated in a manner that satisfactorily mitigates these environmental effects (i.e., through the adoption of additional environmental mitigation measures.). Similarly, where monitoring indicates that potential positive environmental effects associated with Plan implementation are not being adequately realised, the Plan should be reviewed and updated in a manner that supports the realisation of all potential positive environmental effects, having regard to the overall vision, ambitions and strategic objectives of the Plan.



1. INTRODUCTION

1.1 Background

Coillte published a strategic vision for the organisation in 2022 titled *Strategic Vision for Our Future Forest Estate*. This vision outlines the organisations ambitions and commitment to the sustainable management of Coillte's estate to 2050 and beyond, based on delivering the multiple benefits of forests to society; including climate mitigation, biodiversity enhancement, sustainable timber production, and public recreation, while ensuring Coillte remains financially sustainable and socially responsible. Coillte's approach to develop a balanced strategic vision for forestry and land-use is underpinned by four key pillars and their associated ambitions, including: Forests for Climate, Forests for Nature, Forests for Wood, and Forests for People.

Striving to realise their vision, Coillte developed the *Forest Estate Strategic Land Use Plan* (FESLUP) 2023 - 2050, which provided the framework that outlines the strategic objectives to balance the delivery of the organisation's ambitions until 2050. The FESLUP outlines a roadmap, focusing on creating a resilient forest estate that delivers environmental, social, and economic benefits. The FESLUP has already been subject to a full Strategic Environmental Assessment (SEA).

The *Land Use Strategic Implementation Plan* (LUSIP) is the next step within Coillte's strategic planning hierarchy, translating the high-level ambitions and objectives outlined in the FESLUP into implementable and measurable actions over the period of 2026-2035.

1.2 Draft SEA Environmental Report

This is a draft version of the SEA Environmental Report produced for the Draft LUSIP (herein referred to as 'LUSIP' or 'the Plan'). The purpose of this report is to identify and evaluate the likely, significant environmental effects of implementation of the LUSIP. It forms the main written output of the SEA process and as such presents information on the environmental assessment and likely environmental issues related to the implementation of the Plan.

The broad purpose of this SEA Environmental Report is as follows:

1. Identify, evaluate and describe the likely, significant effects on the environment of the Plan and reasonable alternatives.
2. Inform the preparation of the Plan.
3. Provide environmental authorities and the public with an early opportunity to make submissions on a version of the Plan and its potential environmental effects - and incorporate changes where necessary to the Plan and SEA processes.

Coillte are now undertaking SEA Consultation for the Draft LUSIP and associated environmental assessment document, namely the Draft SEA Environmental Report and Draft Natura Impact Report (NIR) for the Draft LUSIP.



1.3 Background to SEA and Legislative Context

SEA is required under the EU Council Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive³). The SEA Directive requires that an environmental assessment is carried out on certain plans and programmes which are likely to have significant effects on the environment.

The overarching objective of the SEA Directive 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....with a view to promoting sustainable development.’*⁴

SEA is a process for evaluating, at the earliest appropriate stage, the environmental consequences of implementing Plan or Programme (P/P) initiatives prepared by authorities at a national, regional or local level or which have been prepared for adoption through legislative means.

SEA is described within the Department of the Environment, Community and Local Government’s (2004) Guidelines for Regional Authorities and Planning Authorities on the Implementation of SEA Directive (2001/42/EC) as the *‘formal systematic evaluation of the likely, significant environmental effects of implementing a plan or programme before a decision is made to adopt the plan or programme’*.

SEA is intended to provide the framework for influencing decision-making at an earlier stage when P/Ps – which give rise to individual projects – are being developed. SEA should result in more sustainable development through the systematic appraisal of plan and policy options.

1.4 Purpose of this SEA

The purpose of SEA in this case is to enable Coillte to integrate environmental considerations into the Plan-making process at an early stage and in a structured and integrated way, and to:

1. Identify, evaluate and describe the likely, significant effects on the environment of implementing the Plan.
2. Ensure that identified significant negative effects are communicated and mitigated, and that the effectiveness of mitigation is appropriately monitored during Plan implementation.
3. Identify positive (and neutral) effects associated with the Plan, and to ensure that these are communicated.
4. Provide an opportunity for SEA Environmental Authorities, interested stakeholders and members of the public to make submissions on the Plan, participate in the Plan-making and contribute to the Plan.

³ Transposing Irish Regulations: S.I. No. 436 of 2004 (Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended by S.I. No. 201 of 2011 (Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011).

⁴ 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 (Department of the Environment, Community and Local Government, 2004)



1.5 Appropriate Assessment

Appropriate Assessment (AA) is a process, conducted under Article 6 of the Habitats Directive (92/43/EEC), to evaluate the implications of a plan or project, either alone or in combination with other plans or projects, on the Natura 2000 network (or the National Site Network in Northern Ireland), considering their conservation objectives. These are sites that have been designated for conservation due to their ecological importance and include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

A Plan must be evaluated for its implications on European sites before it is adopted, made or approved. Plans can only be adopted, made or approved after it has been determined that it will not result in adverse effects on European sites, considering their conservation objectives.

Article 6 of the Habitats Directive envisages a two-stage process relating to Appropriate Assessment.

Stage 1 Screening for AA must be carried out for Plans to determine whether a Plan, individually or in combination with other plans or projects, is likely to have a significant effect on SACs/SPAs, considering their conservation objectives. The competent authority responsible for making the Plan is required to complete the Screening for Appropriate Assessment.

Stage 2 AA must be carried out for a Plan where a Plan-maker determines that a Plan, individually or in combination with other plans or projects, is likely to have a significant effect on SACs/SPAs, considering their conservation objectives. The purpose of the Stage 2 Appropriate Assessment is to determine whether the development will have adverse effects on the integrity of European sites. This assessment is documented in a NIR.

The Draft LUSIP was subject to Stage 1 Screening for AA and it was determined that the Plan is likely to have a significant effect on SACs/SPAs, considering their conservation objectives, and in absence of appropriate mitigation. A Draft NIR was therefore prepared alongside this Draft SEA Environmental Report. This Draft NIR has informed the carrying out of the SEA in accordance with Integrated Biodiversity Assessment principles.



2. THE PLAN

2.1 Overview

Coillte published a strategic vision for the organisation in 2022 titled *Strategic Vision for Our Future Forest Estate*. This vision outlines the organisations ambitions and commitment to the sustainable management of Coillte's estate to 2050 and beyond, based on delivering the multiple benefits of forests to society; including climate mitigation, biodiversity enhancement, sustainable timber production, and public recreation, while ensuring Coillte remains financially sustainable and socially responsible. Coillte's approach to develop a balanced strategic vision for forestry and land-use is underpinned by four key pillars and their associated ambitions, including: Forests for Climate, Forests for Nature, Forests for Wood, and Forests for People.

The ambitions set out under Coillte's Strategic Vision are as follows:

Table 2-1: Coillte's Ambitions for their forest estate under each Key Pillar, as set out in their Strategic Vision.

Key Pillar	Ambitions
Forests for Climate	Ambition 1: Enable the creation of 100,000 hectares of new forests, half of which will be native woodlands, which will sink 18m tonnes CO ₂ by 2050.
	Ambition 2: Redesign 30,000 hectares of Peatland Forests for climate and ecological benefits by 2050.
	Ambition3: Manage the existing Forest Estate to increase the carbon store by 10m tonnes of CO ₂ by 2050.
	Ambition 4: Generate an additional 1 Gigawatt of renewable wind energy to power 500,000 homes by 2030.
Forests for Nature	Ambition 5: Enhance and restore biodiversity by increasing the area of our estate managed primarily for nature from 20% to 30% by 2025.
	Ambition 6: Transform areas of our forests so that 50% of our estate is managed primarily for nature in the long-term.
Forests for Wood	Ambition 7: Produce 25m cubic meters of certified Irish timber, to support the construction of 300,000 homes by 2030.
	Ambition 8: Promote the use and benefits of wood products to increase the level of timber homes from 20% to 80% by 2050.
Forests for People	Ambition 9: Enable the investment of €100 million in world-class Visitor Destinations to support growth in tourism and recreation by 2030.
	Ambition 10: Double the number of Recreation Areas to 500, to benefit local communities and people's wellbeing.
	Ambition 11: Create 1,200 new jobs in rural communities to support the just transition to a low carbon economy.

Striving to realise their vision, Coillte developed the *Forest Estate Strategic Land Use Plan (FESLUP) 2023 - 2050*, which provided the framework that outlines the strategic objectives to balance the delivery of the organisation's ambitions until 2050. The FESLUP outlines a roadmap, focusing on creating a resilient forest estate that delivers environmental, social, and economic benefits. The FESLUP has already been subject to a full SEA.



The LUSIP is the next step within Coillte's strategic planning hierarchy, translating the high-level ambitions and objectives outlined in the FESLUP into implementable and measurable actions over the period of 2026-2035.

2.2 Content of the Plan

The primary purpose of this LUSIP is to bridge the gap between strategy and implementation, making sure Coillte's long-term vision is realised based on a structured and collaborative approach that includes all areas of the organisation. In this regard, the LUSIP integrates spatial data, scenario planning, and best practices in forestry management. It establishes indicators to monitor progress and carries out SEA and AA to ensure environmental considerations are integrated into the Plan and the Plan aligns with all relevant environmental legislation and the environmental policy framework in Ireland. Mitigation measures have been developed and integrated into the plan under the SEA and AA to prevent and reduce potential significant negative effects that may occur due to the implementation of the Plan

The LUSIP has been developed through a phased approach. The initial stage focused on creating an outline plan that details the high-level actions for each FESLUP objective, while the second stage refines these actions through extensive consultation and environmental assessments. This structured, participative process ensures the LUSIP remains adaptable and relevant, enabling Coillte to deliver a resilient forest estate that supports Ireland's climate, biodiversity, and societal goals while safeguarding its natural resources for future generations.

Under the LUSIP Coillte has set out a series of actions for each of the four strategic pillars (Forests for Climate, Forests for Nature, Forests for Wood, and Forests for People). Each action has been specifically identified to help deliver on FESLUP objectives and corresponding Strategic Vision ambitions. The actions under Climate, Nature, and People Pillars apply solely to Coillte's land, while those under the Wood Pillar apply to the entire estate managed by Coillte. For financial partners holding timber rights on Coillte land, consideration of alternative Climate, Nature, and People objectives and associated actions will only occur once these rights have expired.

Indicative timeframes were assigned to actions to monitor progress effectively and guide their timely implementation, while recognizing that execution and ongoing efforts may continue beyond the indicated periods. Some ambitions were established before the LUSIP was developed have different original timeframes. However, the actions outlined in the Plan align with and support their delivery within the 2026-2035 period.

The list of actions includes both ongoing work and new opportunities to enhance delivery. Where it was possible specific targets were identified.

Some of the actions require input and collaboration from various stakeholders, and some of the outcomes and/or deliverables detailed are not under the direct control of Coillte. Coillte will actively engage with external stakeholders to ensure alignment, gather insights, and advocate for necessary policy or regulatory changes to support the plan delivery.

Although this plan has a national scope, actions will be reported by Business Area Unit (BAU) where applicable. This will ensure implementation is adapted to local context, enhancing effectiveness of the plan.

2.3 Plan Inter-relationships

An examination of how the LUSIP interrelates with other legislation and plans/programmes is presented in Appendix 1. This examination was undertaken to develop an understanding of Plan inter-relationships and to assist in the process of assessing the environmental effects of the Plan relative to wider environmental protection objectives, with a view to ensuring the Plan is harmonious and integrated with these wider objectives.



3. SEA METHODOLOGY

3.1 The SEA Process

The SEA process can be defined by four stages, all of which include some level of consultation with stakeholders and the public (Figure 3-1). These stages are defined as:

- Stage 1 – Screening: deciding whether an SEA is required, or not.
- Stage 2 – Scoping: establishing the spatial and temporal scope of the SEA and a decision-making framework that can be used to evaluate impacts.
- Stage 3 – Identification, Prediction, Considerations of Alternatives, Evaluation and Mitigation of Potential Impacts.
- Stage 4 – Consultation, Revision and Post-Adoption. This includes the implementation of statutory SEA monitoring.

This SEA Environmental Report documents the outcomes of Stage 3.

The SEA process generally runs in parallel with the Appropriate Assessment (AA), which is briefly discussed in Section 1.5. The key stages of the integrated SEA and AA processes for Plan-making generally are defined in Figure 3-1.

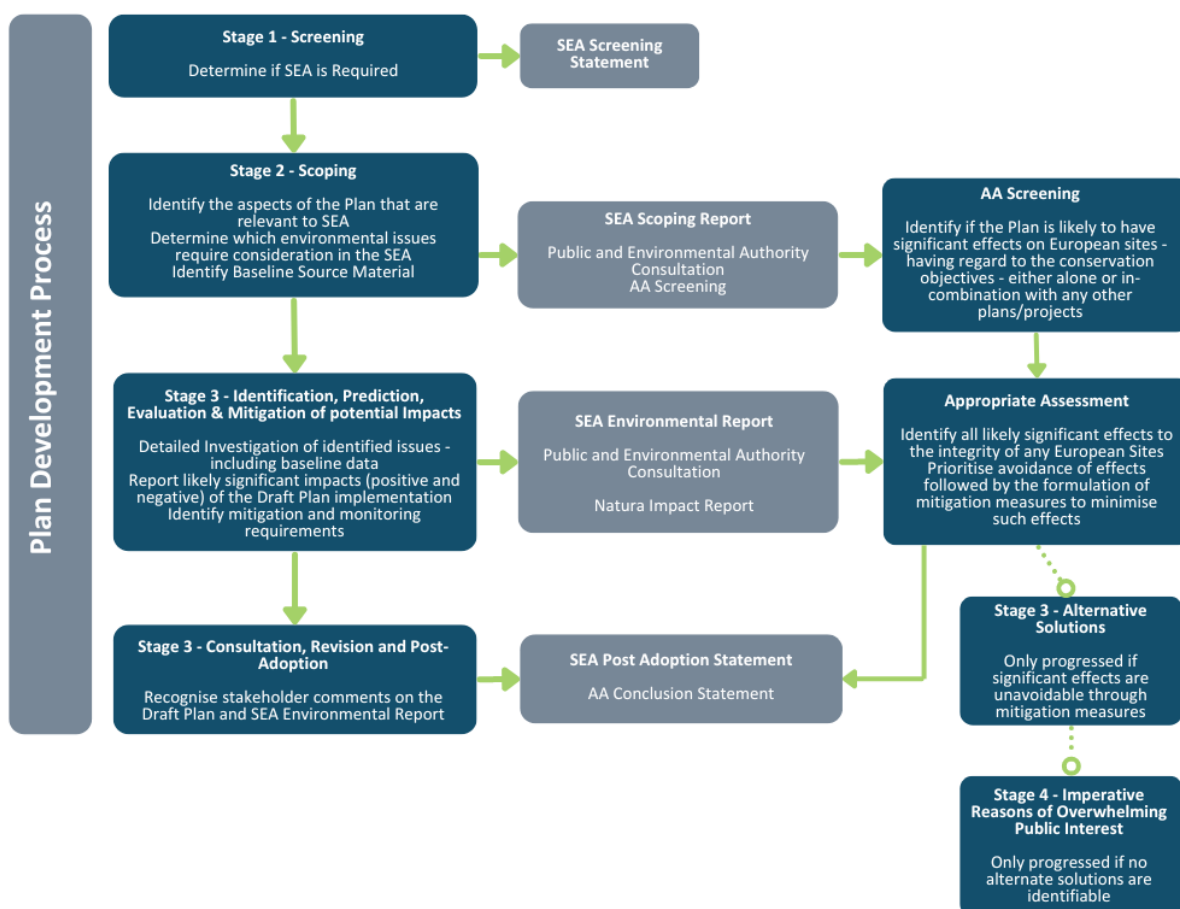


Figure 3-1: SEA and AA Stages and Key Deliverables



3.2 Overview of the Plan, SEA and AA Processes

Following the assessment of the criteria set out in Schedule 1 of S.I. 435/2004, as amended, and having regard to the nature of the Land Use Strategic Implementation Plan and the potential for likely, significant environmental effects from implementation of the Plan, Coillte has determined that the Plan has the potential to give rise to likely, significant effects on the environment, and an SEA is therefore required.

An SEA Scoping Report was produced for an initial draft version of the Plan. This SEA Scoping Report was shared with SEA Environmental Authorities during the SEA Scoping stage. Various Environmental Authorities made submissions relating to the environmental considerations relevant to the Plan. The SEA Scoping report and the submissions received from the Environmental Authorities helped clarify and define the environmental issues that needed to be addressed in the SEA (and AA) of the Plan.

Plan-making and SEA and AA processes have taken place concurrently and the findings of the SEA and AA process have been integrated and have suitably informed the Plan-making process.

Taking into account the scope of environmental topics and issues detailed in the SEA Scoping Report, which was produced for an earlier outline iteration of the Plan; the environmental effects associated with the implementation of the Plan have been identified, evaluated and described in this SEA Environmental Report. This report also defines mitigation measures to prevent and reduce significant negative effects due to the implementation of the Plan.

This document is a draft version of the SEA Environmental Report, which is being placed on public display for the required statutory SEA Consultation to be undertaken.

The findings of the AA were integrated into this SEA Environmental Report. A draft version of the NIR (which documents the AA process) is also now on public display. The SEA and AA processes followed elements of Integrated Biodiversity Impact Assessment.

Any proposed amendments to the Plan arising subsequent to the carrying out of the statutory consultation will be subject to Screening for SEA or AA, or SEA and AA, where necessary.

Following adoption of the Plan, the SEA and AA documents will be consolidated and finalised and an SEA Statement, which will include comprehensive information on how environmental considerations were integrated into the Plan, will be prepared. These documents will be published alongside the Plan. The Plan will then be implemented and environmental monitoring of the environmental effects of Plan implementation, as defined under the SEA process, will be undertaken.

3.3 SEA Processes Undertaken

3.3.1 SEA Screening

The first stage of the SEA process was to carry out Screening for SEA to determine the requirement for SEA of the LUSIP.

Following the assessment of the criteria set out in Schedule 1 of S.I. 435/2004, as amended, and having regard to the nature of the Land Use Strategic Implementation Plan and the potential for likely, significant environmental effects from implementation of the Plan, Coillte has determined that the Plan has the potential to give rise to likely, significant effects on the environment, and SEA is therefore required.



The principal reasons the Plan requires SEA are as follows:

- The Plan supports intensive forestry operations and infrastructural development that may give rise to likely, significant effects on the environment, such as effects on biodiversity, flora and fauna; hydrology and surface water quality; soils, geology and hydrogeology; and landscape character and visual amenity.
- The Plan will provide a framework for land use and has the potential to drive significant land use change.
- The Plan is national in scale, covering approximately 7% of land use in Ireland and ca. 50% of national forestry. Given the geographic scope and scale of the Plan, environmental effects have the potential to be long-term and cumulative in nature along with other national and regional Plans/Programmes.
- The Plan relates to the forestry sector and may influence and support the future development of projects listed in Annex II to the Environmental Impact Assessment Directive.⁵
- The Plan, individually and/or in combination with other plans and projects, has the potential to have likely, significant effects on European sites within the zone of influence of the Plan, in view of site conservation objectives and best scientific knowledge (in the absence of mitigation measures).
- The Plan has the potential to influence other plans/programmes, including those in a hierarchy, to a significant degree.
- The Plan has the potential to generate transboundary environmental impacts and result in likely, significant effects on the environment in Northern Ireland. The Plan may give rise to impacts on environmental components which can be transmitted across boundaries (such as water quality, air quality, landscape character and visual amenity, climate, biodiversity etc.).

3.3.2 SEA Scoping

SEA Scoping is the second stage of the SEA process. The purpose of SEA Scoping is to establish the spatial and temporal scope of the SEA and a decision-making framework that can be used to evaluate impacts. An SEA Scoping Report is produced to document the scoping process.

Coillte carried out SEA Scoping for an initial draft of the Plan which was informed by consultation responses from the environmental authorities. The SEA Scoping Report outlined information on the Plan, including the need for the Plan, its temporal and geographical area and overall objectives. It facilitated scoping the Environmental Components and understanding the environmental issues to be considered under the SEA process. The Scoping Report was also required to facilitate statutory consultation to ensure the approach proposed for the SEA is appropriate. A copy of this report was made available to the statutory Environmental Authorities.

The SEA Scoping Report, along with SEA scoping submissions and consideration of these submissions by the SEA process, helped communicate and define the scope of the environmental issues which are dealt with by the SEA, the methods which are used to address these issues, and the level of detail required to address these issues, as per the SEA Guidelines.⁶

⁵ Directive [2011/92/EU](#) as amended by [2014/52/EU](#).

⁶ 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 (DEHLG, 2004), Page 18: *'It is recommended that at the end of the scoping procedure, the plan-making authority should prepare a brief scoping report of its conclusions as to what information is to be included in the environmental report, taking account of any recommendations from the environmental authorities.'*



The following statutory Environmental Authorities and interested stakeholders were consulted on the scope and level of detail of the information to be included in the SEA Environmental Report:

- Environmental Protection Agency (EPA)
- Minister for Housing, Local Government and Heritage, Development Applications Unit
- Minister for Climate, Energy and the Environment
- Minister for Agriculture, Food, & the Marine
- Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA)

All SEA Scoping submissions received from the Environmental Authorities during SEA Scoping are presented in Appendix 2.

The Environmental Components in the SEA Directive that were 'scoped in' following the SEA Scoping process are as follows:

- Population, Human Health and the Economy
- Biodiversity, Flora and Fauna
- Landscape, Seascape and Visual Amenity
- Cultural Heritage - Archaeological and Architectural
- Soils and Geology
- Land Use
- Air Quality and Noise
- Water
- Material Assets
- Tourism and Recreation
- Climate Change

3.3.3 [SEA Consultation](#)

Coillte must now undertake the SEA Consultation stage of the process.

Draft versions of the Plan, the SEA Environmental Report and the NIR are now being placed on public display and interested stakeholders and members of the public will be given an opportunity to make submissions on the Plan.

Statutory Environmental Authorities are also being provided with an opportunity to make submissions on the Draft Plan, Draft SEA Environmental Report and Draft NIR.

The consultation submissions received will be carefully reviewed and considered during the post consultation plan-making and SEA/AA processes. These submissions will influence and inform the final content of the Plan.



3.4 SEA Environmental Report

3.4.1 Environmental Assessment Approach and Methodology

Stage 3 of the SEA process involves the strategic level identification, prediction, evaluation and mitigation of potential environmental impacts associated with a Plan/Programme (P/P). An SEA Environmental Report is produced to document this process. The SEA Environmental Report is integral to the SEA process and is compiled during a Plan-making process to allow for adequate consideration of the likely, significant environmental effects of the plan and the integration of appropriate environmental mitigation measures into a P/P. It should serve to guide a Plan-making process and ensure optimal environmental outcomes.

The SEA Environmental Report forms the main written output of the SEA process. It serves to document the evaluation of the likely, significant environmental effects of implementing a Plan on the relevant Environmental Components defined in the SEA Directive. It defines Strategic Environmental Objectives (SEOs) and associated targets and indicators relating to each Environmental Component area. It defines environmental mitigation measures to prevent, reduce and offset the likely, significant environmental effects of implementing a P/P and monitoring measures to measure the environmental effects of a P/P. It aims to provide a Plan-maker, statutory Environmental Authorities, interested stakeholders and the general public with a clear understanding of likely, significant environmental effects associated with implementing a P/P.

A summary of the information contained in an SEA Environmental Report is presented below:

- A non-technical summary of the environmental assessment carried out to inform the SEA Environmental Report.
- A description of the P/P under consideration, including detail on the main objectives of the P/P, the contents of the P/P, anticipated P/P outcomes, and how the P/P relates to other P/Ps.
- A description and characterisation of the baseline environment that has the potential to be affected by the implementation of the P/P, including the evolution of the baseline environment without the implementation of the P/P (i.e., under a 'do-nothing' or 'do-minimum' scenario).
- A description of any existing environmental problems relevant to the P/P.
- Environmental protection objectives (including indicators and targets) relevant to the P/P and the way these objectives and environmental considerations have been taken into during the Plan-making process.
- A description of reasonable alternatives identified, the reasons for considering these alternatives within the scope of the environmental assessment, and an evaluation of their likely, significant effect on the environment.
- An evaluation of the likely, significant effects of the implementation of the P/P (including reasonable alternatives) on the environment, and in particular on the following environmental components: biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- A description of environmental mitigation measures proposed to prevent, reduce and offset likely, significant environmental effects that may occur during the implementation of the P/P.
- A description of the monitoring measures to be implemented to monitor the likely, significant effects of implementing a P/P.



This SEA Environmental Report has been produced for Coillte's LUSIP and is being made available to members of the public and the statutory Environmental Authorities to allow them to make submissions on the environmental assessment undertaken, and the environmental mitigation and monitoring measures proposed for the LUSIP. It shall be published for public display with the final Plan once it is approved.

3.4.2 SEA Environmental Report Authors

FT is a consultancy based in Cork, Dublin and Carlow, specialising in civil and environmental engineering, planning and environmental assessment. The company has established an experienced, professional team specialising in all forms of statutory environmental assessment, including EIA, AA and SEA. This team has the support of many in-house engineers, scientists, planners and subject specialists.

FT was retained by Coillte to undertake SEA of the Plan and are responsible for the completion of this SEA Environmental Report. The competent experts involved in the preparation of this SEA Environmental Report are outlined in Table 3-1:

Table 3-1: SEA Environmental Report Authors

Name and Qualifications	Project Role	Relevant Experience
Bernie Guinan MSc, BSc. (Envi. Sci & Tech) Dip. Pollution Assessment Control Dip. Business Development	Project Director	Bernie is Director with Fehily Timoney and Company (FT). She is responsible for managing the Circular Economy and Environment group in FT. She has 25 years' experience in delivering and managing projects in the environmental sector. Bernie has extensive experience coordinating EIA, SEA and AA projects, including large-scale and complex projects. She has in-depth knowledge of all environmental and planning policy, legislation and guidance.
Richard Deeney Advanced Diploma in Planning and Environmental Law, Kings Inns, Ireland 2017 B.Sc. First Class Honours Degree, Environmental Management, Dublin Institute of Technology, 2012 Chartered Environmentalist, The Society for the Environment	Project Manager & SEA Team Lead	Richard is Principal Environmental Scientist at FT. Richard holds a B.Sc. First-Class Honours degree in Environmental Management from Dublin Institute of Technology. He has 13 years' experience providing environmental assessment consultancy services. Richard works in the Circular Economy and Environment group at FT and is highly experienced in project managing, coordinating and delivering EIA, AA and SEA. He has excellent experience in planning and environmental assessment for various types of plans and projects. He has been responsible for project managing and coordinating the completion of the suite of SEA and AA deliverables for 25 Local Authority Climate Action Plans, and multiple land use and non-land use plans.



Name and Qualifications	Project Role	Relevant Experience
Donna O' Halloran National Diploma in Horticulture (National Botanic Gardens/ITB, Dublin). B.Sc. (Agr.) Landscape Horticulture (Hons) (University College Dublin) M.Sc. (Agr.) Environmental Resource Management (1:1) (University College Dublin) M.Sc. Ecological Assessment (1:1) (University College Cork)	AA & Biodiversity Team Lead	Donna is a Senior Ecologist and Environmental Scientist with FT within the Circular Economy & Environment group. Donna has worked at FT for over 10 years as an Ecologist/Environmental Scientist. Donna has a wealth of experience in general ecology, forest ecology, invasive species, air and climate and landscape design (including semi-natural woodland habitat creation). Donna has worked on forestry, infrastructure, energy, waste and urban development projects, and has vast experience in ecological surveying, Ecological Impact Assessment and Appropriate Assessment.
Sanghamitra Dutta MSc. Global Change: Ecosystem Science and Policy, University College Dublin, 2020 BSc. Environmental Science, St. Edmund's College, Shillong, India, 2017	Project Support	Sanghamitra is a Senior Project Environmental Scientist who is in the Circular Economy and Environment group at FT. She has ca. 5 years postgraduate experience, holding a MSc. in Global Change: Ecosystem Science and Policy from University College Dublin and a BSc. Environmental Science from St. Edmund's College, Shillong, India. Sanghamitra is adept at delivering exceptional results, with expertise in SEA and EIA, Project Management, Stakeholder Engagement, and Environmental Research. She has been responsible for supporting the delivery of SEA documentation since joining FT, such as Scoping reports and Environmental Reports for various land use plans.
Emma De Klerk B.Sc. First Class Honours, Environmental Science, University College Cork, 2024	Project Support	Emma is a Graduate Environmental Scientist in the Circular Economy and Environment group at FT. She holds a B.Sc. (Hons) in Environmental Science from University College Cork where she achieved First Class Honours. Emma has been involved in a variety of diverse and challenging projects since joining FT, covering key aspects of environmental assessment, amenity development, and monitoring. She has been responsible for the research, data collation, validation, and analysis for a multitude of projects, including desk-based studies, research, as well as the development of associated reports.



3.4.3 Difficulties Encountered

No significant difficulties were encountered during the undertaking of the assessment.

3.4.4 SEA Environmental Report Checklist

A checklist of information has been included in this SEA Environmental Report under the SEA Directive and transposing national legislation⁷ is provided in Table 3-2. This checklist cross-references the sections in the report where information can be found.

Table 3-2: SEA Environmental Report Checklist

Information Required	Relevant Section of the SEA Environmental Report
An outline of the contents and main objectives of the Plan and relationship with other relevant plans.	Section 2 and Appendix 1.
The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the Plan.	Section 4.
The environmental characteristics of areas likely to be significantly affected.	Section 4.
Any existing environmental 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.	Section 4.
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.	Section 5.
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.	Section 6.
The likely, significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.	Section 7 and Appendix 3.
Interrelationships between each Environmental Component.	Section 7 and Appendix 3.
The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the Plan.	Section 8.

⁷ The Environmental Report is required to contain the information specified in Annex 1 of the SEA Directive and Schedule 2 of S.I. 435 S.I. No. 435/2004 - European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended)



Information Required	Relevant Section of the SEA Environmental Report
A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the Plan.	Section 10.
A non-technical summary of the information provided under the above headings.	Front section of this document.

3.5 SEA Statement

Once the Plan is adopted, Coillte must publish a post-adoption SEA Statement alongside the final Plan. The post-adoption SEA Statement is another integral component of the SEA process.

The SEA Statement provides detail on how the environmental assessment and considerations detailed in the SEA Environmental Report and SEA-related consultation responses throughout the process have influenced the Plan development process. It summarises the reasoning for choosing the preferred alternatives associated with the final Plan instead of other reasonable alternatives. The SEA Statement also presents detail on environmental mitigation and monitoring measures to be implemented over the lifetime of the Plan.

The main purpose of the SEA Statement is to provide interested parties with a good and clear understanding of how the SEA process was carried out during the Plan development process and how SEA informed and supported the process.

3.6 Integrated Biodiversity Impact Assessment

The environmental assessment undertaken was carried out in accordance with an Integrated Biodiversity Impact Assessment based methodology in accordance with the following EPA guidance documents:

- EPA (2012), Final Report: Integrated Biodiversity Impact Assessment, Streamlining AA, SEA and EIA Processes. Best Practice Guidance.
- EPA (2013) Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes - Practitioner's Manual.

The methodology employed facilitated the integration of SEA and AA processes relating to biodiversity impact assessment to ensure the effective, aligned and streamlined assessment of biodiversity impacts. The Plan development, SEA and AA processes - including scoping, baseline evaluation, impact assessment and mitigation/monitoring measure development processes - were carried out concurrently to facilitate holistic and complete assessment of biodiversity impacts. The effective communication and integration of scientific knowledge and analysis between assessments took place. The SEA was suitably informed by the analysis and conclusions in AA and vice versa.



3.7 Outcomes of the Plan, SEA and AA Processes

The SEA and AA processes have facilitated the integration of environmental considerations into the Plan-making process. Reasonable alternatives to the Plan have been assessed, and preferred alternatives identified, considering environmental factors. Environmental mitigation measures contributing towards environmental protection and management and sustainable development - in line with the wider legislative and plan/policy framework - have been integrated into the Plan.



4. THE ENVIRONMENTAL BASELINE

4.1 Introduction

An evaluation and a characterisation of the current state of the environment likely to be affected by the Plan was undertaken to inform the SEA process. This section of the SEA Environmental Report documents this evaluation. The following Environmental Components were considered during this evaluation:

- Population, Human Health and the Economy
- Biodiversity, Flora and Fauna
- Landscape, Seascape and Visual Amenity
- Cultural Heritage - Archaeological and Architectural
- Soils and Geology
- Land Use
- Air Quality and Noise
- Water
- Material Assets
- Tourism and Recreation
- Climate Change

Baseline environmental information for the study area was gathered using available environmental datasets. The evaluation of the baseline environment was informed by the SEA Scoping Report produced and the consultation responses received during the SEA Scoping process. It was also guided and informed by the in-depth experience and expert judgement of the SEA Environmental Report Authors.

This section of the SEA Environmental Report includes information on the state of the environment within the defined Plan area, including maps of individual environmental components and a description of the baseline environment under the Environmental Components identified by the SEA Directive and transposing regulations (i.e. population and human health, biodiversity and flora and fauna, soil, water, air and climatic factors, material assets, cultural heritage, landscape and the interrelationship between these factors). The Plan area and the extent of Coillte lands within the Plan area are shown in Figure 4-1. Existing environmental problems which are relevant to the Plan area were identified and examined under each Environmental Component heading.

The SEA study area or zone of influence has been identified and includes the entire area of Ireland and the surrounding areas that may be affected from implementation of the Plan, which has been conservatively assumed to be 12 nautical miles from the Ireland's coastline (i.e. Ireland's territorial waters), 25 km from Ireland's border with Northern Ireland and inclusive of all environmental features in Northern Ireland which are physically, hydrologically, ecologically or visually connected to the Plan area. The SEA study area is shown in Figure 4-2.



Information provided in this section is based on available baseline data from web-based searches and Geographic Information Systems (GIS) information. A key resource that has been used throughout the SEA process is the EPA's SEA Spatial Information Sources Inventory⁸. The data presented in this section of the SEA Environmental Report is as up-to-date and as accurate as possible and is presented in a readily accessible format, where possible.

The interrelationships between Environmental Components are addressed throughout this section, as appropriate, under each Environmental Component heading.

This section of the SEA Environmental Report also examines the likely evolution of the baseline environment in the absence of the Plan being implemented (i.e., in the 'do nothing' or 'do minimum' scenario).

⁸ Environmental Protection Agency. 2025. SEA Spatial Information Sources Inventory. Available at: [SEA Spatial Information Sources Inventory | Environmental Protection Agency](#)



4.3 Coillte Business Area Units

The Coillte estate is managed in six Business Area Units (BAU) across the country. Each BAU has specific characteristics and contributes differently to social, economic, and environmental demands of local communities. There are 320 Forests across all BAUs. Each Forest consists of several Properties. A Property refers to a defined portion of the Coillte estate and usually comprises both forested and unforested land. There are approximately 2,000 Properties across the entire Coillte estate.

The six BAUs across Coillte's estate are as follows:

- Northwest BAU (BAU1)
- Mid-West BAU (BAU2)
- Midlands BAU (BAU3)
- South-East BAU (BAU4)
- Central-Munster BAU (BAU5)
- South-West Munster BAU (BAU6)

The summary key characteristics of each of the above BAUs has been outlined below. This information was used to inform the environmental assessment of the Plan. The wood production targets for each BAU are provided in Table 4-1. It is not possible to set definitive targets by BAU for afforestation, peatland restoration/re-design, carbon storage, renewable energy, or nature restoration, as all of these actions are fundamentally dependent on the availability, suitability, and allocation of land.

While national ambitions have been set—for example, double the number of recreation sites, 100,000 hectares of new forest and 30,000 hectares of restored peatland by 2050, along with a 10 million tonnes increase in carbon storage and an increase in areas being managed primarily for nature from 20% to 50% long term — translating these into BAU-specific targets requires further analysis and partnerships.

The actions set out in the LUSIP are expected to support the identification of potential sites and the strategic alignment of land use with national climate and biodiversity objectives, enabling the development of realistic targets for these activities. Currently, the land use objectives defined in Figure 4-3 offer the most reliable and accurate indication of where these targets are most likely to be implemented.

Consideration was given to presenting operational and environmental mapping for each BAU, however it was determined, given the environmental datasets currently available, BAU level mapping, would not add any extra degree of granularity or clarity in terms of environmental information, beyond national level mapping which is presented for each environmental component in this section.



Table 4-1: Proposed Wood Pillar Targets for each BAU

BAU	Clearfell ('000 Ha)	Thinning ('000 Ha)	CCF ('000 Ha)	Total ('000 Ha)	Reforestation ('000 Ha)	Roads (Km)
1	8.3 - 9.2	6.0 - 6.6	0.2 - 0.3	14.6 - 16.1	8.3 - 9.2	80.1 - 88.5
2	9.7 - 10.7	10.7 - 11.8	0.9 - 0.9	21.2 - 23.5	9.7 - 10.7	116.9 - 129.2
3	9.8 - 10.8	11.6 - 12.9	1.3 - 1.4	22.7 - 25.1	9.8 - 10.8	125.0 - 138.1
4	7.5 - 8.3	15.8 - 17.5	2.1 - 2.3	25.4 - 28.1	7.5 - 8.3	139.9 - 154.6
5	9.8 - 10.8	24.4 - 26.9	2.1 - 2.3	36.2 - 40	9.8 - 10.8	199.2 - 220.2
6	9.8 - 10.9	7.7 - 8.5	0.4 - 0.5	18.0 - 19.9	9.8 - 10.9	99.0 - 109.4
Total	54.9 - 60.7	76.3 - 84.3	7.0 - 7.7	138.1 - 152.7	54.9 - 60.7	760.0 - 840.0

4.3.1 Northwest BAU (BAU1)

Environmental Features & Biodiversity:

The Northwest BAU covers Donegal, parts of Leitrim, Sligo, and Mayo, and is known for its wild, rugged landscapes, moorlands, and coastal environments. It is a large BAU with over 1.25 million hectares, with Coillte managing approximately 98,000 hectares. 89% of the forests in BAU1 is composed of conifers and 11%, broadleaves.

The climate in the Northwest is dominated by the Atlantic weather patterns, with high rainfall and frequent strong winds. The soils in the region are diverse, including brown soils, peaty podzols, gleys, and blanket peats. Peats and gleys, which are typical of wetland ecosystems, are important for carbon storage and biodiversity conservation. These conditions create a challenging environment for forestry due to poor drainage and high-water retention.

The Northwest BAU is rich in biodiversity, hosting a range of habitats from coastal wetlands to mountainous heathlands. It is home to protected species such as the hen harrier, red squirrel, and Atlantic salmon. Coillte manages c. 22,500 hectares of biodiversity in the BAU ensuring that the rich biodiversity of the region is protected. These areas are critical for the conservation of native flora and fauna, and efforts are made to limit forestry activities in sensitive regions to minimize environmental impact.

The Northwest BAU includes several significant water resources, including the River Erne and River Finn. These rivers, along with numerous lakes such as Lough Melvin and Lough Macnean, provide essential water resources for local communities and wildlife. Coillte actively implements riparian buffer zones to protect water quality during forestry operations, particularly near sensitive catchment areas.

Social & Cultural Aspects:

The population in the Northwest BAU is mainly concentrated in towns like Letterkenny, Ballyshannon, and Sligo, but much of the area remains rural. The local economy traditionally relies on agriculture, fisheries, and tourism, with forestry playing an increasingly important role. Coillte's forests support local employment and contribute to community well-being by providing recreational spaces and maintaining cultural heritage sites. There are 267 archaeological features in the BAU, including megalithic tombs, ringforts, and ruins. Coillte collaborates with the National Monuments Service to ensure these cultural treasures are preserved and accessible to the public.



Recreation Facilities:

Ireland's Northwest region is a hotspot for outdoor recreation. With 54 designed recreational sites, the BAU offers great opportunities for hiking, mountain biking, fishing, and birdwatching. Key recreational sites include Ards Forest Park and Coolaney Mountain Bike Centre. The BAU has also a high recreational usage within a number of National Way-marked Ways traversing Coillte property. These include sections of The Sligo Way, Bealach na Gaeltachta, SliDun na nGall, The Bluestacks Way, The Pilgrim Path, The Bangor Way, Foxford Way, The Western Way, and The Miners Way.

Several recreational facilities are the result of joint initiatives between Coillte, local authorities, and local communities. This ensures that the maintenance, expansion, and creation of recreational sites support the needs of local communities.

4.3.2 Mid-West BAU (BAU2)

Environmental Features & Biodiversity:

The Mid-West BAU includes counties Clare, Galway, and Limerick, covering approximately 938,500 hectares, with Coillte managing about 70,500 hectares. The area features a diverse mix of landscapes, including forests, raised and blanket bog, lakes, and open space. 88% of the forests in BAU2 is composed of conifers and 12%, broadleaves.

The climate in the Mid-West is dominated by the Atlantic Ocean and the gulf stream, with very high rainfall and moderate wind speeds. The soil types of our forests are mainly comprised of brown earth soils, podzols, peats, and gleys, with small areas of marl. The Shannon River system and Lough Derg are key water bodies within this BAU, supporting both biodiversity and human activities.

There is c. 14,500 hectares of biodiversity sites managed in the Mid-West BAU. Biodiversity efforts in this area are strongly focused on raised bog management and restoration. Raised bogs are habitats with high value in the region and act as carbon sinks which help to reduce the impact of climate change.

Social & Cultural Aspects:

The Mid-West BAU has a mix of rural and urban communities, with Galway and Limerick serving as major urban centres. The area is rich in cultural heritage, with many forests containing archaeological sites such as ringforts, burial mounds, and historic settlements. There are 275 archaeological features within Coillte land that are managed with care, ensuring they are preserved and accessible to the public.

Recreation Facilities:

The Mid-West BAU is home to 22 designated recreational areas, including Portumna Forest Park and Derroua Mountain Bike Trail. Portumna Forest Park offers extensive walking and cycling trails along the shores of Lough Derg, picnic areas, and the remains of a Cistercian Abbey dating to 15th Century. Derroua is a popular destination for mountain bikers, offering challenging terrain with stunning views of Connemara's landscape. There are also a number of Way-marked ways passing through Coillte property, including The Western Way, Sli Connemara, The East Clare Way, The Mid Clare Way, and The Suck Valley Way.

Several recreational facilities are the result of joint initiatives between Coillte, local authorities, and local communities. Examples of this are the Walled Garden in Mountbellew, Playground in Cratloe, and the recreational facilities at Cong/Clonbur Woods.



4.3.3 Midlands BAU (BAU3)

Environmental Features & Biodiversity:

The Midlands BAU covers 1.675 million hectares across counties Cavan, Laois, Longford, Louth, Meath, Monaghan, Offaly, Roscommon, Westmeath, along with a large area of County Leitrim. Coillte manages approximately 71,500 hectares of land in this BAU. 73% of the forests in BAU3 is composed of conifers and 27%, broadleaves.

The climate in the Midlands is cooler and more temperate than other regions, with moderate rainfall. Given the geographical spread of the BAU, geology and landform vary. This includes well-drained mineral soils on the Drumlin to the north, varied soil types in the slopes of the Slieve Bloom to the South, raised and blanket peats in other regions. There is a high proportion of lakes dispersed throughout the BAU, all of which are mapped and recognised within our management actions.

The Midlands BAU is home to important ecosystems, such as old woodlands and raised bogs which support species like the Hen harrier, freshwater pearl mussel, curlew, red grouse, and the Irish hare. There is c. 14,700 hectares of areas primarily managed for biodiversity in the Midlands BAU, with several SPAs and NHAs located in the region, highlighting its importance for biodiversity conservation.

Social & Cultural Aspects:

The Midlands BAU is predominantly rural, with small towns and farming communities making up much of the population. The local economy traditionally relies on agriculture, with forestry playing an increasingly important role. Coillte's forests contain significant cultural heritage sites, including historic farmsteads, ringforts, and ancient burial grounds. To date, there are 406 archaeological features in the Midlands BAU. Coillte collaborates with the National Monuments Service to ensure these cultural treasures are preserved and accessible to the public.

Recreation Facilities:

The Midlands BAU has 55 designated recreational areas. Several recreational facilities are the result of joint initiatives between Coillte, local authorities, and local communities. Key facilities include the Rossmore Forest Park, the Slieve Bloom Mountain Bike Trail, and The Burren Geopark. Rossmore Forest Park offers historical and scenic walks, cycling paths, and fishing spots. Slieve Bloom is a popular destination for mountain bikers, offering challenging terrain with stunning views, and Cavan Burren Forest Park is a fascinating geological and archaeological forest landscape with trails and interpretative centres. There are also a number of Waymarked Ways passing through Coillte property in the BAU. These include The Slieve Bloom Way, The Cavan Way, The Westmeath Way, The Monaghan Way and the Tain Trail, Offaly Way.

4.3.4 South-East BAU (BAU4)

Environmental Features & Biodiversity:

The South-East BAU embraces the counties Dublin, Carlow, Kilkenny, Wexford, and Wicklow and covers about 1 million hectares, with Coillte managing c. 60,000 hectares. This region is characterized by fertile soils and mild climate, which makes it one of the most productive areas for forestry in Ireland. 78% of the forests in BAU4 is composed of conifers and 22%, broadleaves.



The climate in this region is influenced by the Irish Sea, leading to moderate temperatures year-round and relatively high rainfall during the winter months. The soils in this BAU are primarily well-drained mineral soils, including brown earths and gleys. These conditions are favourable for forestry, allowing for a diverse range of tree species to thrive, including native oak, ash, and beech, alongside commercial species like Sitka spruce.

Water resources in the South-East BAU include major river systems such as the Barrow, Nore, and Slaney, which are vital for both biodiversity and local water supply. Efforts to prevent sedimentation and nutrient runoff are critical to maintain the health of these water bodies in the BAU.

The South-East BAU is rich in biodiversity, with significant areas of native woodland and fens. There are approximately 10,600 hectares of biodiversity managed in the BAU. Our biodiversity projects in the South-East focus on the protection and restoration of these unique habitats, as well as managing forests to support wildlife. The region is home to species such as the pine marten, and otter, with conservation efforts aimed at preserving these species through habitat management and the protection of ecological corridors.

Social & Cultural Aspects:

The South-East BAU has large populations centres, including the suburbs of South Dublin (Tallaght, Rathfarnham, and Dalkey) and the coastal areas of Bray, Greystones, Wicklow, Arklow, and Wexford. The towns of Newbridge, Naas, Blessington, Carlow, and Baltinglass dominate the western area of the BAU with finally Kilkenny, New Ross, Gorey, and Enniscorthy to the south. Due to its large population, there is a higher demand for forests products and services in the BAU4 comparing to other BAUs.

The BAU is home to a rich cultural and archaeological heritage, with numerous ancient monuments, including ringforts, standing stones, and medieval ruins scattered throughout the landscape. 308 of these archaeological features are located within Coillte's forests, and efforts are made to preserve them for future generations.

Recreation Facilities:

The South-East BAU offers some of Ireland's most popular outdoor recreational facilities, with 79 designated areas for recreational activity. Several of these facilities are developed through joint initiatives between Coillte and local communities, including the Dublin Mountains Partnership (DMP), the Wicklow Way Partnership (WWP), and the Wicklow Outdoor Recreation Committee (WORC). These partnerships focus on improving recreation, managing environmentally sensitive sites, and improving awareness on forestry through environmental education, and tourism and entrepreneurship incentive.

Avondale Forest Park is a key recreational site in the BAU, offering family-friendly walking trails, picnic areas, an incredible Treetop Walk & Viewing Tower, and an interactive centre focused on the history of forestry in Ireland. The South-East BAU also has several smaller recreational forests that cater to local communities, providing spaces for exercise, relaxation, and wildlife observation.

4.3.5 Central-Munster BAU (BAU5)

Environmental Features & Biodiversity:

The Central Munster BAU covers counties Tipperary and Waterford, and parts of counties Cork and Limerick, summing up a total of 917,796 hectares, with Coillte managing c. 74,000 hectares. This BAU features a varied landscape that includes mountain ranges such as the Galtees and Ballyhouras, as well as fertile plains. 84% of the forests in BAU5 is composed of conifers and 16%, broadleaves.



The climate in Central Munster is relatively mild, with moderate rainfall throughout the year. The soils in this BAU are diverse, ranging from fertile brown earths in lowland areas to shallow, stony soils in upland regions, which support both commercial forestry and native woodlands. There are numerous rivers in the area, including the Suir, Lee, and Blackwater, which are essential in supporting biodiversity and local agriculture.

The Central Munster BAU is home to a range of biodiversity-rich areas, particularly in the Galtee and Ballyhoura Mountains. There is c.14,000 hectares of areas primarily managed for biodiversity in the BAU, with several SPAs, NHAs, and SACs are located in the region, highlighting its importance for biodiversity conservation. These forests provide important habitats for wildlife, including protected species like the red squirrel, and otter. Coillte's biodiversity projects in this region focus on restoring and managing these habitats to ensure they continue to support diverse ecosystems.

Social & Cultural Aspects:

The Central Munster BAU serves a primarily rural population. Main population centres in the area include Waterford, Dungarvan, Clonmel, Cahir, Cashel, Nenagh, Thurles and Roscrea. Other main towns within the surroundings are Fermoy, Midleton, Templemore, Borrisokane, and Newport. Agriculture is a traditional economic activity in the region, with forestry increasingly growing over the last decades.

Coillte is aware of 303 archaeological features of cultural significance in its landholdings in the Central Munster BAU, including ancient farmsteads, megalithic tombs, and medieval structures. These sites are carefully managed to protect their historical significance while ensuring they are accessible for the public.

Recreation Facilities:

Central Munster is renowned for its outdoor recreation opportunities, particularly in the Ballyhoura and Galtee mountain ranges. The Ballyhoura Mountain Bike Trails are among the most popular in Ireland, offering over 90 kilometers of tracks that cater to cyclists of all levels. In the Galtee Mountains, the Aherlow Nature Park provide numerous hiking and walking routes, with stunning views and opportunities to explore native woodlands and wildlife.

Coillte manages a total of 46 designated recreational forests in this BAU, offering facilities such as picnic areas, interpretive signage, and family-friendly walking trails. There are also a number of marked Ways passing through Coillte property in the BAU. Amongst others, these include the East Munster Way and Slieve Felim Way along with more recent multi-days walks the Ormonde Way and St. Declan's Way.

4.3.6 South-West Munster BAU (BAU6)

Environmental Features & Biodiversity:

The South-West Munster BAU covers 1.192 million hectares across counties Claire and Kerry, and parts of counties Cork and Limerick, with Coillte managing approximately 65,500 hectares. The BAU is dominated by forested land with the remainder mostly moorland, mountains, marsh, and lakes. This BAU has the greatest concentration of mountains in any of the six BAUs, including Carrantuohill, Ireland's highest mountain in the MacGillycuddy's Reeks, Stacks Mountains Range, Mullaghareirks, Nagles Mountains, Caha Mountains. 88% of the forests in BAU6 is composed of conifers and 12%, broadleaves.

The climate in this region is influenced by the Atlantic Ocean, with mild temperatures, windy conditions, and high rainfall throughout the year. The soils in this BAU vary widely, with fertile brown earths in the lowlands and peaty soils in the upland areas. This creates ideal conditions for forestry, however some areas are prone to windblow. The region is also home to numerous rivers, including the Lee and Blackwater, which are vital for both biodiversity and human use.



The South-West Munster BAU has a very rich biodiversity. There are approximately 13,400 hectares of areas primarily managed for biodiversity in the BAU, with several SPAs and SACs located in the region. Coillte's biodiversity projects in this BAU focus on protecting high conservation value forests, restoring degraded habitats, and managing forests to support wildlife. Key species in this region include the lesser horseshoe bat, freshwater pearl mussel, and various bird species that rely on forested areas for nesting and feeding.

Social & Cultural Aspects:

The South-West Munster BAU has large populations centres, including Abbeyfeale, Bandon, Bantry, Charleville, Cork, Kenmare, Killarney, Limerick, Listowel, Macroom, Mallow, Newcastle West, Tralee, and Skibbereen. There are two Gaeltacht areas within the BAU, Gaeltacht Muscraí and Gaeltacht Uíbh Ráthach. The economy is largely rural with agriculture-based industries. The BAU has a rich cultural heritage with forests that contain important archaeological sites such as ancient ringforts, medieval monasteries, and historic farmsteads. To date, there are 333 archaeological features in the South-West Munster BAU. These sites are carefully managed by Coillte in collaboration with local heritage groups to ensure their preservation while allowing public access.

Recreation Facilities:

The South-West Munster BAU offers 33 designated recreational areas, some of which are the most scenic and popular recreation sites in Ireland. Key recreation sites include the Curragh Chase Forest Park with over 300 hectares of rolling parkland, trails, mixed woodland, lakes and an arboretum, and the Gougane Barra Forest Park, known for beautiful walks tucked in a lush valley at the edge of the Sheehy mountains.

There are also several Waymarked Ways passing through Coillte property in the BAU. These include: The Dingle Way, The Kerry Way, The Beara Breifne Way, Sheep's Head Way, and The Duhallow Way.

Coillte manages these recreation sites in partnership with local tourism authorities, ensuring that they are accessible and well-maintained. Additional recreational forests in the region offer facilities such as picnic areas, nature trails, and interpretive signage, encouraging outdoor activities and nature-based tourism.



4.4 Population, Human Health and the Economy

4.4.1 Current Conditions

4.4.1.1 Population

A review of the current population trends in Ireland shows that the population has grown from approximately 4.76 million in 2016 to approximately 5.15 million people in 2022 - this is an increase of 8.1% - as per the Central Statistics Office (CSO) census data 2022⁹; population growth rates vary at each local authority level but show overall increases (refer to Table 4-2 below).

Figure 4-4 shows the settlement patterns within Ireland. The existing Coillte land extents are in predominantly rural areas, avoiding the majority of major settlements and urban areas. Population density is shown in Figure 4-5.

Table 4-2: Population of Administrative Counties - between 2016 and 2022 (Source: CSO, 2023)¹⁰

Council Area	Change 2016 - 2022
Carlow	+8.8%
Cavan	+7.3%
Clare	+7.7%
Cork City and County	+7.6%
Donegal	+5.0%
Dublin City	+6.9%
Dún Laoghaire-Rathdown	+7.3%
Fingal	+11.6%
Galway City	+7.3%
Galway County	+7.8%
Kerry	+5.9%
Kildare	+11.4%
Kilkenny	+5.0%
Laois	+8.5%
Leitrim	+9.8%
Limerick City and County	+7.5%
Longford	+14.4%
Louth	+8.4%
Mayo	+5.7%

⁹ Central Statistics Office (2023) *Census of Population 2022 - Summary Results*, available: [Population Changes Census of Population 2022 - Summary Results - Central Statistics Office](#) [accessed 25 November 2024].

¹⁰ Central Statistics Office (2023) *Population and Actual and Percentage Change 2006 to 2022*, available: [FY003B - Population and Actual and Percentage Change 2006 to 2022](#) [accessed 25 November 2024].



Council Area	Change 2016 - 2022
Meath	+13.2%
Monaghan	+6.4%
Offaly	+6.7%
Roscommon	+8.9%
Sligo	+7.1%
South Dublin	+8.0%
State	+8.1%
Tipperary	+5.2%
Waterford City and County	+9.6%
Westmeath	+8.4%
Wexford	+9.5%
Wicklow	+9.4%

4.4.1.2 Health

Overall, the health of the population is found to be 'Good' (29.7%) or 'Very Good' (53.2%) according to the CSO 2022 Census Data. The percentage of people reporting their general health status as either very good or good decreased from 87% in 2016 to 83% in 2022 (CSO,2023). CSO statistics from 2021 – particularly for In-patient day cases with principal - respiratory diseases (14%) were the most prevalent conditions for all ages followed by circulatory diseases (12%), Injury and poisonings (12%), external causes (12%) and neoplasms (9%). According to the Healthy Ireland Survey 2023 the proportion of people with a probable mental health problem in 2023 (12%) has declined since 2021 (15%) but remains higher than in 2016 (10%).¹¹ Green spaces have been shown to be vital in the improved physical and mental well-being of society. Forests are key areas for the provision of access to these green spaces through increased access and recreational opportunities. Visits to Coillte's forests increased by nearly 40% during the Covid-19 pandemic, with 2.2 million people visiting their top fifty forests between March and December 2020.

Table 4-3: Self Perceived Health Survey (CSO, 2023)

Age range (Years)	Good or Very good	Fair	Bad or Very Bad
15-19	90.8%	2.6%	0.4%
20-24	88.1%	4.1%	0.6%
25-29	87.6%	4.5%	0.6%
30-34	86.2%	5%	0.7%
35-39	85.2%	6%	0.8%
40-44	84.2%	7.2%	1.2%

¹¹ Department of Health (2024) *Healthy Ireland Survey 2023 – Summary Report*, Government Publications: Dublin, available:www.gov.ie/pdf/?file=https://assets.gov.ie/283794/3ef96218-68fb-4fa3-a0d2-ec687071db38.pdf#page=null [accessed 26 November 2024].



Age range (Years)	Good or Very good	Fair	Bad or Very Bad
45-49	83.1%	8.8%	1.7%
50-54	81.1%	10.7%	2.2%
55-59	79%	12.7%	3.0%
60-64	75.8%	15.3%	3.6%
65-69	73.8%	17.4%	3.7%
70-74	70.5%	20.1%	4.0%
75-79	65.2%	24.4%	5.2%
80-84	58.2%	29.1%	6.8%
85 and older	46.4%	36.2%	9.4%
Average	82.9%	8.6%	1.7%

4.4.1.3 Economy

The COVID pandemic affected 96% of businesses to some degree. Employment rate increased significantly from 2017 to 2019, before dropping sharply due to the pandemic. The highest levels of unemployment in the last five years were seen in 2020 and 2021 because of this and peaked at an unemployment rate of 7.7% in March 2021. The unemployment rate has decreased since then and as of June 2025 is 4.0%¹².

Irish economy experienced recovery in 2021 following easing of health restrictions. Russia's invasion of Ukraine is having significant impacts on the global economy causing the economy to perform weakly. In 2023 Ireland's GDP declined by 5.5% and continued to decline in the first half of 2024. However, the second half of the year showed economic growth.¹³ Compared to Q3 in 2023, Q4 in 2024 increased in GDP by 2.9%. The Agriculture, Forestry & Fishing sector decreased by 3.7% in Q3 2024 compared with Q3 2023.¹⁴

¹² Central Statistics Office (2024) *Key Economic Indicators*, available: [Key Economic Indicators Dashboard | CSO Ireland](#) [accessed 03 July 2025].

¹³ European Commission (2024) *Economic Forecast for Ireland*, available: [Economic forecast for Ireland - European Commission](#) [accessed 13 January 2025].

¹⁴ Central Statistics Office (2024) *Quarterly National Accounts Quarter 3 2024*, available: [GDP by Sector Quarterly National Accounts Quarter 3 2024 - Central Statistics Office](#) [accessed 02 January 2025].



Forestry is an essential sector in the Irish economy. The Agriculture, Forestry & Fishing sector contributed €1.6 billion to the Q2 2024 GDP.¹⁵ It is estimated the forestry industry contributes about €2.3 billion directly and indirectly to the Irish economy yearly. Forestry has been identified as an important sector under Project Ireland 2040 to help facilitate the development of the rural economy and to increase Ireland's bioeconomy through the provision of more sustainable raw materials for infrastructure¹⁶. As Ireland continues to grow, there will be an increased demand for housing. The forestry sector is in a key position to provide timber products for this, which is more sustainable than steel and concrete. It is estimated total employment generated by activities in the forest and timber/wood products sector is 9,423 (direct and indirect) full-time equivalents.¹⁷

4.4.2 Future Trends (Evolution of Baseline)

The predicted future population of Ireland is highly influenced by future net migration per annum. It is predicted that under high net migration, the population will reach 7.005 million people by 2057. Under medium and low net migration this number drops to 6.446 million, and 5.734 million persons respectively.¹⁸

The ageing population in Ireland will cause a demographic shift in the country in future years that will increase demand for healthcare facilities and associated public healthcare expenditure. Currently there are 4 persons of working age to support each person aged 65 and over; by 2050, the equivalent figure will be just over 2. By 2050, the annual cost of age-related expenditure is set to be €17 billion higher than in 2019.¹⁹

ESRI (Economic & Social Research Institute) has predicted a positive outlook for the Irish economy in the medium-term with a predicted increase in GDP and MDD (Modified domestic demand) in Ireland in the years ahead.²⁰ Forecasting into the future, unemployment in Ireland is projected to stay low owing to the tight labour market within the country (European Commission, 2024).

4.4.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Population, Human Health and the Economy are as follows:

- Population and development growth will grow the raw material requirement within Ireland.
- Settlement patterns could influence the location and acceptability of different Coillte development projects.
- The construction or maintenance of new or existing infrastructure on forest estate lands may cause temporary disruption the local communities, through noise, dust, disruption to services/utilities and traffic etc.

¹⁵ Central Statistics Office (2024) Quarterly National Accounts Quarter 2 2024, available: [GDP by Sector Quarterly National Accounts Quarter 2 2024 - Central Statistics Office](#) [accessed 26 November 2024].

¹⁶ Government of Ireland (2018) *Project Ireland 2040 – National Planning Framework*, Government of Ireland, available: [Project-Ireland-2040-NPF.pdf](#) [accessed 26 November 2024].

¹⁷ Department of Agriculture, Food and the Marine (2023) *Ireland's Forest Strategy 2023-2030*, Government of Ireland, available: [www.gov.ie/pdf/?file=https://assets.gov.ie/269571/90a5e49b-0481-4c58-b296-7c27ac9a7ad6.pdf#page=null](#) [accessed 26 November 2024].

¹⁸ Central Statistics Office (2024) Population and Labour Force Projections 2023-2057, available: [Population and Labour Force Projections 2023-2057 - Central Statistics Office](#) [accessed 13 January 2025].

¹⁹ Department of Finance (2021) *Population Ageing and the Public Finances in Ireland*, Department of Ireland, available: [SPU 2016](#) [accessed 13 January 2025].

²⁰ Economic & Social Research Institute(2024) *Positive outlook for Ireland's economy in 2024 and 2025, with robust labour market and declining inflation*, available: [Positive outlook for Ireland's economy in 2024 and 2025, with robust labour market and declining inflation | ESRI](#) [accessed 02 January 2025].



- The construction or maintenance of new or existing infrastructure on the forest estate may temporarily impede public access to forests.
- Infrastructure development may influence the human environment and land use in Ireland.
- Development construction activities may generate air emissions, vibration or noise that may temporarily impact human health and well-being.
- A spatially concentrated deterioration in human health, if effects arising from environmental vectors such as water and air are not mitigated.
- Recreational and development pressures on habitats and landscapes.
- Renewable energy development supported by the Plan could influence residential amenity within the zone of influence and may have a visual/noise impact, see also Section 4.6 Landscape, Seascape and Visual Amenity and Section 4.10 Air Quality and Noise.
- The Plan will support the carrying out of commercial forestry and the delivery of wood product to the market. These economic and material assets have the potential to underpin and support economic and infrastructural development, including housing development, resulting in positive effects for people.
- Afforestation has the potential to drive carbon sequestration resulting in positive climate impacts and the achievement of Land Use, Land Use Change and Forestry Greenhouse Gas (GHG) emission reduction targets defined under the EU LULUCF Regulation.²¹
- Renewable energy development supported by the Plan has the potential to result in positive climate impacts and support the achievement of Greenhouse Gas (GHG) emission reduction targets defined in Climate Action and Low Carbon Development Act 2015, as amended by the Climate Action and Low Carbon Development (Amendment) Act 2021. This climate mitigation has the potential to have positive effects on people through reducing the effects of climate change.
- The Plan will support the utilisation of Coillte lands for tourism and recreation development. This form of the development can generate significant amenity value and has the potential to create positive effects for people and visitors to these sites.
- Nature conservation and restoration will be an intrinsic component of the Plan. The creation of nature space can have positive effects on people who visit and experience this space, fostering an awareness and connection with nature, generating a sense of ownership and responsibility for nature, and inspiring pro-environmental behaviour, which is defined as behaviour that protects the environment.²²

²¹ This regulation sets an EU-wide net target of 310 million tonnes of CO₂ equivalent carbon removals in the LULUCF (Land Use, Land Change and Forestry) sector by 2030. Each member state has a specific target under this regulation which they must meet to contribute towards the EU-wide net target. Ireland's binding target is to achieve a reduction of 0.6 Mt CO₂ equivalent LULUCF emissions by 2030, relative to average levels in 2016-2018.

²² Steg, L., and Vlek, C. (2009). Encouraging pro-environmental behaviour: an integrative review and research agenda. J. Environ. Psychol. 29, 309–317. doi: 10.1016/j.jenvp.2008.10.004



4.5 Biodiversity, Flora and Fauna

4.5.1 Current Conditions

The SEA has considered available information on designated sites of conservation interest as well as protected species, ecological connectivity and non-designated habitats which have high ecological value. There are a number of considerations for nature conservation designations in Ireland at an international, European and national level and these have been outlined in Table 4-4. Approximately 96,000 ha of Coillte land is designated as SACs, SPAs, NHAs or pNHAs and Coillte actively works to engage with regulators in relation to activities planned in designated sites and undertakes any ecological assessments and consents required. SACs and SPAs in Ireland are shown in Figure 4-6, while NHAs and pNHAs are displayed in Figure 4-7.

Annex I to the Habitats Directive list the types of habitats whose conservation requires the designation of SACs. Mapping showing the known or best estimate of national distributions of Annex I habitats is provided in Figure 4-8.

Table 4-4: Designated Ecological Sites and Protected Species

Environmental Features	Description
UNESCO ²³ (United Nations Educational, Scientific and Cultural Organisation) World Heritage and Biosphere sites	United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List comprises sites of outstanding universal value: cultural, natural or mixed. The UNESCO Biosphere Reserves List comprises areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use. There are currently two World Heritage sites in the State - Brú na Bóinne and Sceilg Mhichíl, a further seven sites on a tentative list, and two Biosphere sites - Kerry Biosphere and Dublin Bay Biosphere.
National Parks ²⁴	National Parks are specially designated protected areas of unspoilt beauty and there are six located in Ireland. The primary purpose of the National Parks is the conservation of biodiversity and landscape; however, they also provide recreational space for locals and visitors.
Nature Reserves ²⁵	A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. There are currently 78 Statutory Nature Reserves. Most are owned by the State, but some are owned by organizations or private landowners.
Special Areas of Conservation ²⁶ (SACs) ²⁷	Designated under the Habitats Directive (Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora). There are currently 441 sites nationally.
Special Protection Areas ²⁸ (SPAs) ²⁹	Designated under the Birds Directive (EC Directive 200/147/EC on the conservation of wild birds). There are currently 167 sites nationally

²³ [Home - World Heritage Ireland](#)

²⁴ [National Parks in Ireland | National Parks & Wildlife Service](#)

²⁵ [Nature Reserves in Ireland | National Parks & Wildlife Service \(npws.ie\)](#)

²⁶ [Designated site data | National Parks & Wildlife Service \(npws.ie\)](#)

²⁷ [Habitats Directive \(1992/43/EEC\) - habitats and species listed in Annex I and II](#)

²⁸ [Designated site data | National Parks & Wildlife Service \(npws.ie\)](#)

²⁹ [Birds Directive \(2009/147/EEC\)](#)



Environmental Features	Description
RAMSAR sites ³⁰	The Convention of Wetlands of International Importance, especially as habitats for waterfowl, was established at Ramsar in 1971 and ratified by Ireland in 1984. The main aim of the Convention is to secure the designation by each contracting state of wetlands in its territory for inclusion in a list of wetlands of international importance for waterfowl. This entails the commitment of each contracting state to a policy of protection and management of the designated wetlands, and of formulating and implementing planning so as to promote the conservation of designated wetlands and, as far as possible, the wise use of wetlands in its territory. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares.
Natural Heritage Areas ³¹ (NHAs)	NHAs are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. To date, 75 raised bogs have been given legal protection, covering some 23,000 hectares. These raised bogs are located mainly in the midlands. A further 73 blanket bogs, covering 37,000ha, mostly in western areas are also designated as NHAs.
Proposed Natural Heritage Areas (pNHAs) ³²	There are 630 pNHAs, which were published on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats.
Tree Preservation Order (TPO)	Tree Preservation Orders may be made under Section 45 of the Planning and Development Act (as amended) sets out the provisions for TPOs. TPOs can be made in the interest of amenity or the environment and allow for the protection of individuals or groups of trees. By 1996 there were 178 Tree Preservation Orders made in the State; some local authorities granted numerous orders (Meath County Council) while others viewed the designation as being ineffective and so granted no TPOs (Clare County Council).
Flora Protection Order Sites ³³	The Flora (Protection) Order, 2022 (S.I. No. 235 of 2022) gives legal protection to 65 species of vascular plants and 65 species of bryophytes in the Republic of Ireland (25 liverworts and 40 mosses). The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 2022, which supersedes orders made in 1980, 1987, 1999 and 2015.
Wildfowl Sanctuaries ³⁴ (see S.I. 192 of 1979)	Wildfowl Sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. There are 68 sanctuaries in the State. Shooting of game birds is not allowed in these sanctuaries.

³⁰ [Ramsar Sites - Datasets - data.gov.ie](https://data.gov.ie/datasets/ramsar-sites)

³¹ [Natural Heritage Areas \(NHA\) | National Parks & Wildlife Service \(npws.ie\)](https://npws.ie/natural-heritage-areas)

³² [EPA Maps](https://npws.ie/eia/eia-maps)

³³ [Flora Protection Order Map Viewer \(npws.ie\)](https://npws.ie/natural-heritage-areas/flora-protection-order-map-viewer)

³⁴ [Wildfowl Sanctuaries | National Parks & Wildlife Service \(npws.ie\)](https://npws.ie/natural-heritage-areas/wildfowl-sanctuaries)



Environmental Features	Description
Salmonid Waters ³⁵	Salmonid waters are designated and protected under the European Communities (Quality of Salmonid Waters) Regulations 1988 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (<i>Salmo salar</i>), trout (<i>Salmo trutta</i>), char (<i>Salvelinus</i>) and whitefish (<i>Coregonus</i>).
OSPAR Marine Protected Areas ³⁶ (MPA)	Under the OSPAR Convention to Protect the Marine Environment of the North East Atlantic, Ireland committed to establishing marine protected areas to protect biodiversity (i.e., OSPAR MPAs). There are currently 19 OSPAR sites proposed in the State.

The SEA has considered potential positive and negative impacts the Plan may have on non-designated habitats that are of ecological value. Categories of such non-designated habitat relevant to the Plan are presented in Table 4-5.

Table 4-5: Ecological Connectivity and Non-designated Habitats

	Description
Ecological connectivity and networks (including stepping stones and corridors)	Coastal systems, riparian habitats, hedgerow, and other blue and green infrastructure networks. Ecological connectivity and networks is a key consideration along with invasive species - particularly those listed on the Third Schedule to the European Communities (Birds and Natural Habitats) Regulations 2011 [S.I.477/2011].
Other non-designated sites of high biodiversity value or ecological importance	Important non-designated habitats, including semi-natural habitats in National Parks and Wildlife Service (NPWS) national surveys (native woodlands, reef systems, tidal habitats, grasslands, peatlands etc.) is key consideration. Forests, ancient and old woodlands and important trees that carry ecological value is a key consideration. Forest cover in Ireland has reached 11.6% of the total land area, with a wide variety of forest types present. Coillte own and manage circa 440,000 ha of lands, which is nearly 7% of the total land area of Ireland. Forested areas can provide eco-system services and can have significant ecological value. Coillte currently assigns 90,000 ha of land within its estate for nature conservation (biodiversity areas, riparian buffers and biodiversity features). Approximately half of this land lies outside legally designated ecological sites.

³⁵ [Register of Protected Areas - Salmonid Water Regs Table - Datasets - data.gov.uk](https://data.gov.uk/dataset/register-of-protected-areas-salmonid-water-regs-table)

³⁶ [OSPAR Convention to Protect the Marine Environment of the North East Atlantic, Ireland committed to establishing marine protected areas to protect biodiversity](https://www.ospar.org/en/areas-of-protection/marine-protected-areas)



4.5.1.1 Forests³⁷

Forest habitats support 80% of terrestrial species providing food, shelter and space to a range of plants, invertebrates, mammals and birds³⁸ (FAO, 2020). Forest canopies are species rich terrestrial habitats supporting about 40% of invertebrate species, of which 10% are considered canopy specialists³⁹ (J O'Halloran et al., 2011).

Native forests tend to have a higher percentage of species diversity⁴⁰ (O Sweeney et al., 2010) than non-native forests however, this does not dismiss the biodiversity value of the latter⁴¹ (S Iremonger et al., 2006).

Ireland is home to a range of forest types including conifer forest (>80% conifer tree species), mixed forest (conifers and broadleaves tree species each account for 20 - 80% of canopy) and broadleaf forest (>80% broadleaf tree species). The total forested area in Ireland is ca. 808,848 ha. It is estimated that 21% of this area (ca. 169,858 ha) can be categorised as native forest (>80% of native species present) and 12% of this area (ca. 97,061 ha) can be categorised as mixed forest (20 - 80% native tree species present). Native forests cover 2.5% of the national land area of Ireland.

Forests provide a variety of ecosystem services (e.g. protecting/maintaining water quality and flow, nutrient recycling etc.) as well as playing an important role in climate change mitigation (carbon sequestration), conservation and recreation.

Compared with 'natural forests' or mixed-species forests, conifer forests usually have less tree species diversity (i.e. a lower number tree species in canopies). Conifer forests that have fewer tree species in the canopy have less potential to deliver ecosystem services. For example, mixed forests tend to be more effective in delivering a range of provisioning services and are more resistant to various disturbances than single species planted forests⁴² (Jactel et al. 2017). The relationships between forest type, biodiversity and ecosystem services are highly relevant for informing forest policy and management, although given the multitude of ecosystem services, it is difficult to generalise about the role of forest diversity. There are also trade-offs between different ecosystem services depending on the tree mixture and stand type involved. Some tree mixtures are superior at providing certain services, but other tree mixtures or even single-species forests are more effective for other services⁴³ (Brockerhoff et al. 2017). In an Irish context, given the lack of native or mixed forests in the landscape due to ancient and historic deforestation, and the prevalence of conifer forests, conifer forests can provide significant ecological value.

³⁷ Inclusive of forests comprised of native species and non-native species, broadleaves and conifer forests.

³⁸ Food and Agriculture Organization of the United Nations (FAO) (2020). The state of the world's forests. Available at: [State of the World's Forests 2020](#)

³⁹ O'Halloran, J., Irwin, S., Kelly, D. L., Kelly, T. C., Mitchell, F. J. G., Coote, L., Oxbrough, A., Wilson, M.W., Martin, R. D., Moore, K., Sweeney, O., Dietzsch, A. C., Walsh, A., Keady, S., French, V., Fox, H., Kopke, K., Butler, F. and Neville, P. 2011. Management of biodiversity in a range of Irish forest types. Report prepared for the Department of Agriculture, Fisheries and Food. 391pp

⁴⁰ Sweeney O, Wilson M, Irwin S, Kelly T, O'Halloran J: Are bird density, species richness and community structure similar between native woodlands and non-native plantations in an area with a generalist bird fauna? Biodiversity and Conservation 2010, 19:2329-2342

⁴¹ S. Iremonger, J. O'Halloran, D.L. Kelly, M.W. Wilson, G.F. Smith, T. Gittings, P.S. Giller, F.J.G. Mitchell, A. Oxbrough, L. Coote, L. French, S. O'Donoghue, A.-M. McKee, J. Pithon, A. O'Sullivan, P. Neville, V. O'Donnell, V. Cummins, T.C. Kelly and P. Dowding P 2006, Biodiversity in Irish plantation forests - Large Scale Project in the Environmental RTDI Programme 2001-2006. University College Cork, University College Cork.

⁴² Jactel H, Bauhus J, Boberg J, Bonal D, Castagneyrol B, Gardiner B, Gonzalez-Olabarria JR, Koricheva J, Meurisse N, Brockerhoff EG (2017). Tree diversity drives forest stand resistance to natural disturbances. Curr For Rep 3:223-243

⁴³ Brockerhoff, E.G., Barbaro, L., Castagneyrol, B. et al. Forest biodiversity, ecosystem functioning and the provision of ecosystem services. Biodivers Conserv 26, 3005-3035 (2017). <https://doi.org/10.1007/s10531-017-1453-2>



Coillte have defined High Conservation Value Forests within its estate. These are defined as areas of the estate that lie within SACs, SPAs, NHAs or pNHAs as detailed in Table 4-5. A map showing these High Conservation Value Forest areas is presented in Figure 4-9.

Ancient Woodland is defined as areas of woodland believed to have remained continuously wooded since 1660⁴⁴ i.e. since before the period when planting and afforestation became common practice. Many of these woodlands are important in terms of their biological and cultural value. These forests would typically have developed naturally throughout the country from early in the post-glacial period, which started approx. 10,000 years ago. Many Ancient woodlands are considered irreplaceable habitats of high biodiversity value. Only tiny areas of ancient woodlands are present in Ireland today.

Old or long-established woodlands are defined as sites in Ireland that have been apparently forested since the 1830's⁴⁴, when the earliest Ordnance Survey maps were prepared. Old woodland sites account for approx. 6% of the total area of the Coillte estate and are very variable in character: some have plentiful semi-natural characteristics, while others have few or none. These woodlands may or may not have ancient origins. The locations of Coillte's old woodland sites are shown in Figure 4-10.

There are also managed conifer forests across the country that have a long history of forest cover. These areas can have high ecological value because they often retain some semi-natural characteristics (e.g. veteran trees, native regeneration in gaps, deadwood, diverse ground flora).

Threats to forest habitats include spatial fragmentation (i.e., removal of forests/conversion to open habitat), invasive species (e.g. *Rhododendron ponticum* and *Prunus laurocerasus*), disease (i.e., *Hymenoscyphus fraxineus*, *Phytophthora ramorum* and *Tetropium fuscum*), windfall and storm damage, deer browsing amongst others⁴⁵ (P.M. Perrin, et al., 2008) which can have a knock-on effect for the species and biodiversity value of these habitats.

Conifer forests account for the majority of Ireland's forest and provide habitat for a range of native flora and fauna, making a positive contribution to biodiversity conservation. Semi-natural forests - and any forests with a high degree of 'naturalness' - tend to be richer in biodiversity because they are more diverse in structure and composition. All forests can be enhanced for biodiversity through close to nature management practices.

4.5.1.2 Birds

BirdWatch Ireland and the Royal Society for the Protection of Birds (RSPB) in NI provide a list of priority bird species for conservation on the island of Ireland. This list is referred to as the Birds of Conservation Concern in Ireland BoCCI List. In this list, birds which breed and/or winter in Ireland are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. Birds on the Red List are those of highest conservation concern, the Amber List are of medium conservation concern and the Green List birds are not considered threatened.⁴⁶ The number and breakdown of bird species on the Red and Amber List is shown in Table 4-6.

⁴⁴ Philip M. Perrin and Orla H. Daly (2010). A provisional inventory of ancient and long-established woodland in Ireland.

⁴⁵ Perrin PM, James M, Barron S, O'Neill F, McNutt K, Delaney A: National Survey of Native Woodlands 2003-2008 - Volume 1; Main Report. BEC Consultants for National Parks and Wildlife Service 2008 [http://www.botanicalenvironmental.com/wp-content/uploads/2011/03/Volume-I.pdf].

⁴⁶ Gilbert G, Stanbury A and Lewis L (2021), "Birds of Conservation Concern in Ireland 2020 –2026". Irish Birds 9: 523—544 The categorisation of species as breeding, wintering etc. ref



Table 4-6: Red and Amber Bird Types

Bird Types	Red List	Amber List
Breeding	27	43
Passage	3	8
Wintering	13	11
Breeding and Wintering	11	18

As well as considerations related to European sites - a focus is placed on protected species outside of these designations such as bats⁴⁷, breeding birds⁴⁸, badgers⁴⁹ etc. as well as all related species listed within the Flora (Protection) Order, 2022 ([S.I. No. 235 of 2022](#)).

4.5.2 Future Trends (Evolution of the Baseline)

Increasing land-use change such as urbanisation, afforestation and its associated management and changing agricultural practices are likely to continue to pose risks to the quality and distribution of aquatic and terrestrial habitats and species, both within and outside protected sites. However, the continued implementation of measures required in achieving the objectives of the Water Framework Directive (WFD) and the requirements of the Habitats Directive are likely to benefit protected sites and the wider aquatic environment in the future.

The conservation objectives developed by the NPWS for European sites, as well as other management plans for declining species (e.g., Threat Response Plans) will contribute to the critical changes needed to reverse biodiversity declines nationally and internationally. Future trends will be influenced by changes/additions to existing designated (SAC, SPAs and NHAs). Several pNHAs may be reviewed and upgraded to NHAs and, similarly, sites listed as tentative on the UNESCO Heritage list may be upgraded to designated heritage sites.

There are currently 29 established and 18 potential invasive species threats. Species which are listed as potential threats may become established threats in the near future. The EPA's report on alien invasive species and the continuing development of the National Biodiversity Data Centre National Invasive Species Database will aid in the documentation of the distribution of invasive species in Ireland. These reports and datasets will go towards the implementation of the recent European legislation on halting the spread of invasive species (Regulation 1143/2014, entered into force on 1 January 2015).

⁴⁷ The Habitats Directive ([1992/43/EEC](#)) and Birds Directive ([2009/205/EEC](#)) provides legal protection for habitats and species of European importance. The overall aim of the Habitat and Birds Directives are to maintain or restore the "favourable conservation status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Habitats Directive as above and Directive 2009/205/EC on the conservation of wild birds) with Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated to afford protection to the most vulnerable among them. These two designations are collectively known and referred to as European sites. Articles 6(3) and 6(4) of the Habitats Directives set out the decision-making tests for plans and projects likely to affect such sites. Article 6(3) establishes the requirement for AA. These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning and Development Act 2000 (as amended). Further to the requirements of considerations related to European sites protected Annex IV of the Habitats Directive identifies priority species which are afforded protection in their own right - these include all Irish species of bats. Bats are also protected under the Irish Wildlife Acts, 1976 and 2000.

⁴⁸ Irish Wildlife Acts, 1976 (as amended)

⁴⁹ Irish Wildlife Act 1976 (as amended) and Bern Convention Appendix III



The continued maturation of conifer forests in existence in Ireland since the 1950s has the potential to increase the level of eco-system services and ecological value associated with these areas going forward.

Increased impact to forests through windfall and storm damage as a results of increased extreme weather events due to Climate Change will be a key pressure on forest habitats going forward.

4.5.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Biodiversity, Flora and Fauna are as follows:

- The potential effects of forestry activities (e.g. afforestation, reforestation, felling, roading, recreation) on non-designated biodiversity features e.g. important habitats and species outside designated sites - particularly with regard to barriers to movement and displacement.
- The potential for effects on designated areas.
- The potential to spread invasive species and opportunities to reduce the harmful impact these species have on biodiversity (as set out in outcome 2H of the National Biodiversity Plan 2023-2030).
- Potential impact of forestry management and recreation development on flora species listed under the Flora (Protection) Order, 2022 (S.I. No. 235 of 2022).
- Potential impact of renewable energy development supported by the Plan on biodiversity.
- Opportunities to promote green infrastructure, ecological connectivity nature-based solutions, and biodiversity net gain through the LUSIP.
- Nature conservation and restoration is an intrinsic component of the Plan. The Plan has the potential to support biodiversity protection and enhancement in alignment with nature legislation and policy (e.g., the Ireland's 4th National Biodiversity Action Plan).



4.6 Landscape, Seascape and Visual Amenity

4.6.1 Current Conditions

There are six areas designated and recognised as nationally important landscapes within the Republic of Ireland. All of these are National Parks. Ireland has no Areas of Outstanding Natural Beauty (AONB); however, there are AONB within NI, such as the Ring of Gullion AONB and the Mourne AONB which are considered as part of the Transboundary effects.

There is a National Landscape Strategy for Ireland 2015-2025, which was published by the Department of Arts, Heritage and the Gaeltacht (DAHG) in 2015. There is currently no approved national level landscape mapping for Ireland. The Landscape Institute published a draft landscape database of the UK and Ireland in March 2023, which provides a centralized repository of landscape character data for the whole island of Ireland. However, the data is not harmonized and consists of links to landscape character data from the various Local Authorities throughout Ireland.

The Irish landscape has been characterised into physiographic units by the GSI. This has been presented in Figure 4-11.

The Planning and Development Act (as amended) defines the term 'landscape,' which is used in the SEA. In addition, many Local Authorities have incorporated landscape designation into their County Development Plans in the form of protected views, prospects, landscape conservation areas and scenic routes etc. Similar to LCAs, there is no national standardised approach for designation of protected views, prospects, scenic routes etc. for landscape features/sites. The EPA's document on *Good practice guidance on Strategic Environmental Assessment (SEA) and Landscape*⁵⁰ has informed the SEA.

The Marine Institute published a Regional Seascape Character Assessment for Ireland in 2020. This identified 13 different Irish seascape character types, within 17 regional seascape character areas. This is reflected in the National Marine Planning Framework (NMPF). The NMPF defines seascape as '*landscapes with views of the coast or seas, and coastal areas and the adjacent marine environment with cultural, historical and archaeological links with each other. Seascape can be broken down into its constituent parts of visual resource and marine character. Visual resource refers to views of the coast and sea from land, views from the sea to land, and views from sea to sea. Character is the perception of an area, the combination of characteristics at the surface, within the water column and on the seabed.*' National seascape character types in Ireland are shown in Figure 4-12.

The above and any other or emerging landscape designations has been considered by the assessment.

The SEA assessment of landscape utilises information from the following sources:

- The National Landscape Strategy (NLS) for Ireland
- Forest cover/Indicative Forest Strategies⁵¹

⁵⁰ EPA (2023) *Good practice guidance on Strategic Environmental Assessment (SEA) and Landscape*, available: [Good practice guidance on Strategic Environmental Assessment \(SEA\) and Landscape](#)

⁵¹ Department of Agriculture, Food and the Marine



4.6.2 Future Trends (Evolution of the Baseline)

In May 2015, the DAHG published the National Landscape Strategy for Ireland 2015-2025. This is in line with Ireland's ratification of the European Landscape Convention (ELC) (2000). The National Landscape Strategy will be used to aid compliance with the ELC. It is a high-level policy framework aimed at achieving a balance between the protection, management and planning of the landscape by way of supporting actions (DAHG, 2016). This strategy (and its successor) will strongly influence landscape in the country into the future.

Landscape and seascape trends in Ireland will continue to be strongly influenced by land use planning requirements relating to landscape, seascape and visual amenity protection (e.g., such as those defined in County/City Development Plans), as provided for under the Planning and Development Act (as amended).

Renewable energy development is foreseen to significantly influence and alter existing landscape, seascape and visual amenity throughout the country and in marine areas. Other development and activities, such as agriculture, forestry, transport development and urban development/expansion will also continue influence landscape and visual amenity in the country.

4.6.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Landscape and Visual Amenity are as follows:

- Effects of Coillte activities on areas of designated landscape quality and views and prospects.
- Impact of recreational development on general visual amenity in the vicinity of these developments and wider landscape character.
- Potential negative impacts on seascapes through changes in the natural, social, cultural, perceptual, and aesthetic characteristics as a result of projects carried out by Coillte.



4.7 Cultural Heritage - Archaeological and Architectural

4.7.1 Current Conditions

Archaeological sites are legally protected.⁵² One of the primary sources of information for known archaeological features is the Record of Monuments and Places (RMP).⁵³ The RMP is an inventory of sites and areas of archaeological significance. There are 150,800 recorded monuments on the RMP and over 138,800 of these relate to archaeological monuments (NMS, 2020).

Local authorities compile and maintain the Record of Protected Structures (RPSs),⁵⁴ these RPSs are listed in the County Development Plans, but are not available in digital map format for some County Council's. It is acknowledged that the register of protected structures documented in CDPs may not represent all Ministerial recommended sites/structures which are included in the National Inventory of Architectural Heritage (NIAH).⁵⁵ The purpose of the NIAH is to identify, record, and evaluate the post-1700 heritage of Ireland and there are over 50,000 listings on the NIAH in Ireland. These provisions include historic gardens, designed landscapes and underwater archaeological heritage.⁵⁶ The Wreck Inventory of Ireland Database (WIID) holds records of over 18,000 known and potential wreck sites in Irish waters⁵⁷; this is managed by the underwater archaeology unit.

Architectural Conservation Areas⁵⁸ (ACAs) are designated for their special characteristics and distinctive features. An Architectural Conservation Area has been defined by the Planning and Development Act 2000 (as amended) as *'a place, area, group of structures or townscapes, that is of special architectural, historical, archaeological, artistic, cultural, scientific, technical, social interest or value, or contributes to the appreciation of Protected Structures.'* ACAs in Ireland are detailed in the various County and Local Area Development Plans (some of which are pending designation). Archaeological heritage sites in Ireland are displayed in Figure 4-13.

The Irish Government's has a vision for fostering World Heritage in Ireland. This involves the exemplary protection and management of World Heritage Properties, empowered local communities and stakeholders, enhanced awareness and understanding of World Heritage generally, and the inscription of further Irish properties on the World Heritage List.

There are two registered UNESCO World Heritage Sites in the Republic of Ireland:

- Brú na Bóinne - Archaeological Ensemble of the Bend of the Boyne in Co. Meath.
- Skellig Michael off the coast of Co. Kerry.

⁵² Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023), the National Cultural Institutions Act 1997 (as amended) and the Planning and Development Act 2000 (as amended)

⁵³ Data available at [National Monuments Service - Archaeological Survey of Ireland - Datasets - data.gov.ie](https://data.gov.ie/datasets/national-monuments-service-archaeological-survey-of-ireland)

⁵⁴ under Section 51 of the Planning & Development Act 2000 (as amended).

⁵⁵ Architectural Heritage (National Inventory) and Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023). Data available at [National Inventory of Architectural Heritage \(NIAH\) National Dataset - Datasets - data.gov.ie](https://data.gov.ie/datasets/national-inventory-of-architectural-heritage-niah-national-dataset)

⁵⁶ Department of Housing, Local Government and Heritage. 2015. Advice to the Public on Ireland's Underwater Archaeological Heritage.

⁵⁷ [National Monuments service - Wreck Inventory of Ireland - Dataset - data.gov.ie](https://data.gov.ie/datasets/national-monuments-service-wreck-inventory-of-ireland)

⁵⁸ Designated under Section 81 of the Planning & Development Act 2000 (as amended)



There also exists a World heritage tentative List for Ireland (last updated 2025).⁵⁹ This list is an inventory of natural and cultural heritage sites that may have potential to demonstrate Outstanding Universal Value and therefore considered suitable for nomination to the World Heritage List. It is important to note that the nomination process does not necessarily result in the inscription of a site on the World Heritage List. A site can be inscribed on the World Heritage List only if the World Heritage Committee determines it is of Outstanding Universal Value for all of humanity. The following are currently sites on this tentative list:

- The Historic Astronomical Observatories of Ireland
- The Passage Tomb Landscape of County Sligo
- Royal sites of Ireland: Ancient Irish Sites of Royal Inauguration
- Transatlantic Cable Ensemble

Within Ireland there also exists three UNESCO global geoparks. These Geoparks are areas of exceptional geological significance that promote awareness of the earth's geological heritage.⁶⁰ The three Geoparks in Ireland are:

- The Marble Arch Caves Global Geopark
- The Copper Coast Global Geopark
- Burren and Cliffs of Moher Global Geopark

The SEA assessment of Cultural Heritage - Archaeological and Architectural utilises information from the following sources:

- Department of Housing, Local Government and Heritage (including underwater archaeology such as wreck data⁶¹)
- National Monuments Service (including the Underwater Unit)
- Built Heritage and Architectural Policy Section (the NIAH)⁶²
- Heritage Council
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- National Built Heritage Service (NBHS)⁶³

⁵⁹ UNESCO World Heritage Ireland - Tentative List, available: [Tentative Property Archives - World Heritage Ireland](#)

⁶⁰ Government of Ireland - UNESCO global geoparks, available: [Geoparks | Permanent Representation To The OECD And UNESCO | Ireland.ie | Ireland.ie](#)

⁶¹ Available at [Wreck Viewer | National Monuments Service \(archaeology.ie\)](#)

⁶² Data available at [National Inventory of Architectural Heritage \(NIAH\) National Dataset - Datasets - data.gov.ie](#)

⁶³ Data available at [Buildings of Ireland: National Inventory of Architectural Heritage](#)



The SEA assessment of Cultural Heritage - Archaeological and Architectural is informed by guidelines set out for the protection of heritage assets. The assessment considers the Plan in relation to other plans set out for heritage sector. These include:

- Built & Archaeological Heritage: Climate Change Sectoral Adaptation Plan (2019)⁶⁴
- Ministerial Guidelines 'Architectural Heritage Protection: Guidelines for Planning Authorities'.
- The Built Heritage chapters within the relevant local authority County Development Plans.

4.7.2 Future Trends (Evolution of the Baseline)

The archaeological, architectural and cultural heritage within Ireland is a finite resource and protection of this resource is a continuous requirement set down in national legislation. New Therefore, the existing cultural heritage environment is not expected to change significantly in the immediate future. New heritage related features may become known or be designated in the future. There are also sites on the UNESCO tentative list that may be designated in the near future.

4.7.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Cultural Heritage are as follows:

- The potential impact of development (new road networks, recreational facilities) on existing and unknown archaeological sites, architectural heritage sites, and protected structures.
- The potential effects of Coillte forestry activities (such as afforestation/reforestation) and development on existing and unknown archaeological sites, architectural heritage sites, and protected structures.
- The potential impact of Coillte greenfield development or Coillte activities (such as forestry or peatland restoration/re-design projects) on archaeological remains.
- The potential impact on the setting of heritage assets (the surroundings in which the asset is understood, experienced and appreciated) through changes in the physical landscape and changes in setting that have transboundary effects.

⁶⁴ Note that this Plan is expected to be updated in September 2025 following the development of the new National Adaptation Framework (2024)



4.8 Soils and Geology

4.8.1 Current Conditions

4.8.1.1 *Geology*

The geology of Ireland varies greatly, comprising of a low-lying central limestone plain that is surrounded by coastal mountains. The mountains to the north-west (Galway, Mayo and Donegal) and east (Wicklow Mountains) are comprised of granite. The north-east of Ireland is covered in a basalt plateau and to the south, the mountains run in an east-west direction and is largely composed of a red sandstone rock. The geology of Ireland is presented Figure 4-14.

As part of the Irish Geological Heritage (IGH) Programme, a partnership between Geological Survey Ireland (GSI) and the NPWS, the GSI have identified important geological and geomorphological sites which could be conserved as NHAs. Until designation is confirmed, these sites are classified as Irish Geological Heritage Sites (IGHS). There are over a thousand audited geological heritage sites identified around Ireland.

4.8.1.2 *Soils*

Soil is a key environment component essential for the forestry sector, in addition to being instrumental in interactions with other environmental components such as water, biodiversity, landscape, human health and the climate. The quality of Irish soils is considered generally 'good' in terms of its physical, chemical and biological parameters. There are, however, pressures that impact on its long-term health, such as population growth and land-use changes including agriculture, afforestation/reforestation. Soil contamination can also occur from leakages, spillages from industry, old mining sites and landfills. Diffuse pollution will usually arise from primary activities such as agriculture, forestry and horticulture.

Subsoils in Ireland are made up of glacial and post-glacial sediments. Glacial till makes up the majority of subsoil, while other subsoils found in Ireland are sand and gravel, lake deposits, alluvium and peat. National soil types in Ireland are shown in Figure 4-15.

There is no legislation solely directed to soil protection in Ireland. The EU soil strategy for 2030 sets out a framework and concrete measures to protect and restore soils and ensure that they are used sustainably. A new Soil Monitoring Law will put the EU on a pathway to healthy soils by 2050.

Soils can contain a vast amount of carbon, primarily in the form of soil organic matter (SOM), which comes from decomposed plant and microbial biomass. Soil carbon plays a crucial role in maintaining soil health, enhancing fertility, and supporting biodiversity. Soils are the largest terrestrial carbon pool and are an essential component of the global carbon cycle. Grassland soils in Ireland store significant amounts of carbon, approximately 440 t CO₂/ha or an estimated 1,800 Mt CO₂ across all mineral soils.⁶⁵

Healthy soils with high carbon content contribute to improved agricultural productivity, better water retention, and greater resilience against erosion. However, when soil carbon levels decrease due to land use changes, deforestation, or poor agricultural practices, more carbon is released into the atmosphere, contributing to climate change. A map showing the soil carbon content of Irish soils is shown in Figure 4-16.

⁶⁵ C. Paul, R. Fealy, O. Fenton, G. Lanigan, L. O'sullivan, R.P.O. Schulte Assessing the role of artificially drained agricultural land for climate change mitigation in Ireland (2018).



In Ireland, peatland areas comprise 20.6% of our land area (An Taisce, 2022). Peatlands include blanket bogs, raised bogs, fens and wet and dry heath. The main threats to peatland areas in Ireland are peat extraction, habitat changes, drainage, invasive alien species, nutrient pollution and climate change (Teagasc, 2016). The loss and degradation of peatlands can affect biodiversity, flooding and climate change (carbon sinks). Peatland areas can be categorised by organic matter content in soils. Soils can be categorised into the following groups in Ireland: Organo-mineral soils, organic soils and mineral Soils. Organic soils are characterized by a high percentage of organic matter. Mineral soils are Primarily composed of inorganic materials (rocks, minerals) with a small amount of organic matter. Organo-mineral soils contain a significant amount of organic matter, but less than organic soils. A map presenting these soils groups is presented in Figure 4-17.

4.8.2 Future Trends (Evolution of Baseline)

4.8.2.1 *Geology*

The GSI are in the process of compiling a list of geological and geomorphological sites in need of protection through NHA (Natural Heritage Area) Designation. The GSI has completed its list of karst (i.e. exposed limestone) and early fossil sites. It is therefore envisaged geology of importance will be provided further protection into the future.

4.8.2.2 *Soils*

In 2022, the Eighth EU Environment Action Programme (EAP) was adopted by the European Parliament and council. This EAP directly mentions soil in two of its six top priority objectives:

- Objective 4 - Pursuing zero-pollution, including in relation to harmful chemicals, in order to achieve a toxic-free environment, including for air, water, **soil** as well as in relation to light and noise pollution, and protecting the health and well-being of people, animals and ecosystems from environment-related risks and negative impacts.
- Objective 5 - Protecting, preserving and restoring marine, terrestrial and inland waters biodiversity inside and outside protected areas by, inter alia, halting and reversing its loss and improving the state of ecosystems and their functions and the services they provide, and the environment, in particular air, water, and **soil**, as well as combating **desertification and soil degradation**.

The 8th EAP set a list of the EU's to do list for immediate action. Number five on this list is '*Ensure sustainable use of soil and transform the EU's food system to protect and restore biodiversity*'. Under this action there was a goal to introduce a dedicated legislative proposal on soil health by 2023 to ensure the protection and sustainable use of soil. They have since proposed the *Soil Monitoring Law*, which provides a legal framework to help achieve healthy soils by 2050 and aims to address key soil threats in the EU, such as erosion, floods and landslides, loss of soil organic matter, salinisation, contamination, compaction, sealing, as well as loss of soil biodiversity.

The EPA's National Soil Database (NSDB) produced a national baseline database of soil geochemistry including spatial maps of major nutrients, and essential trace elements. This study provides Ireland with a good baseline of soil geochemical properties should any future soil protection policies be developed.

It is envisaged that measures will be implemented into the future to ensure the protection and enhancement of soil health into the future.



4.8.3 Key Considerations Relating to the Draft LUSIP

The actions proposed in the LUSIP have the potential to result in the following impacts on the baseline environment:

- Potential impacts to soils/lands vulnerable to erosion, resulting in landslides.
- Potential for soil degradation (e.g. organic matter decline, altering pH, salination, increased fertiliser application) and soil sealing/compaction from construction activity in forested areas/
- Potential to impacts on audited and unaudited geoheritage sites.
- Potential for forestry to contribute to positive effects on soils (e.g., soil stabilisation, control of surface water run-off).

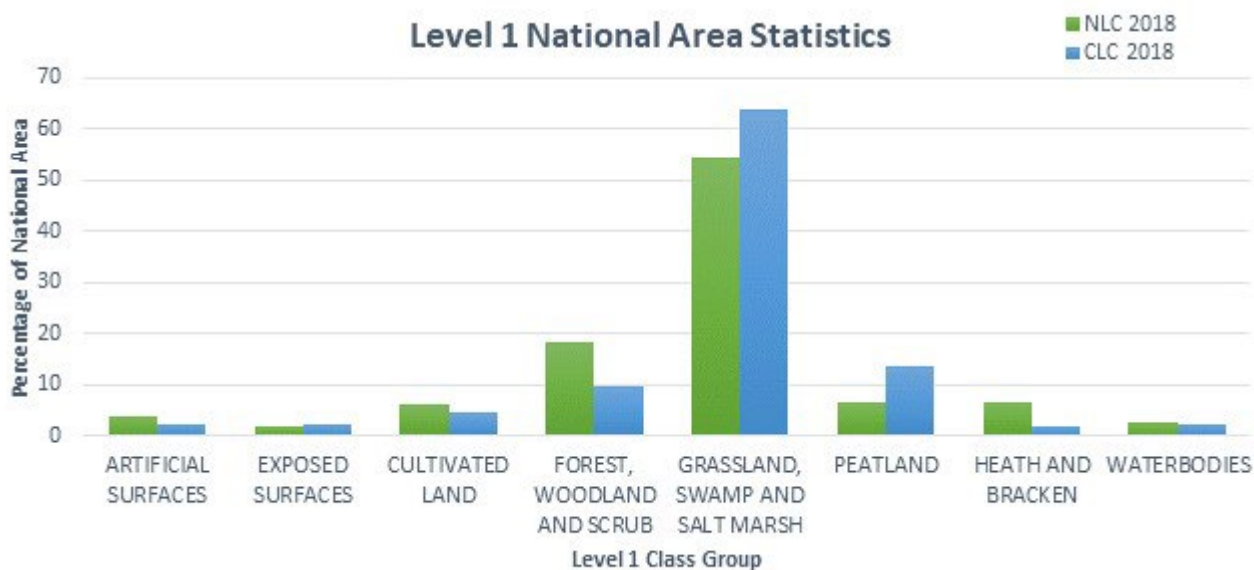


4.9 Land Use

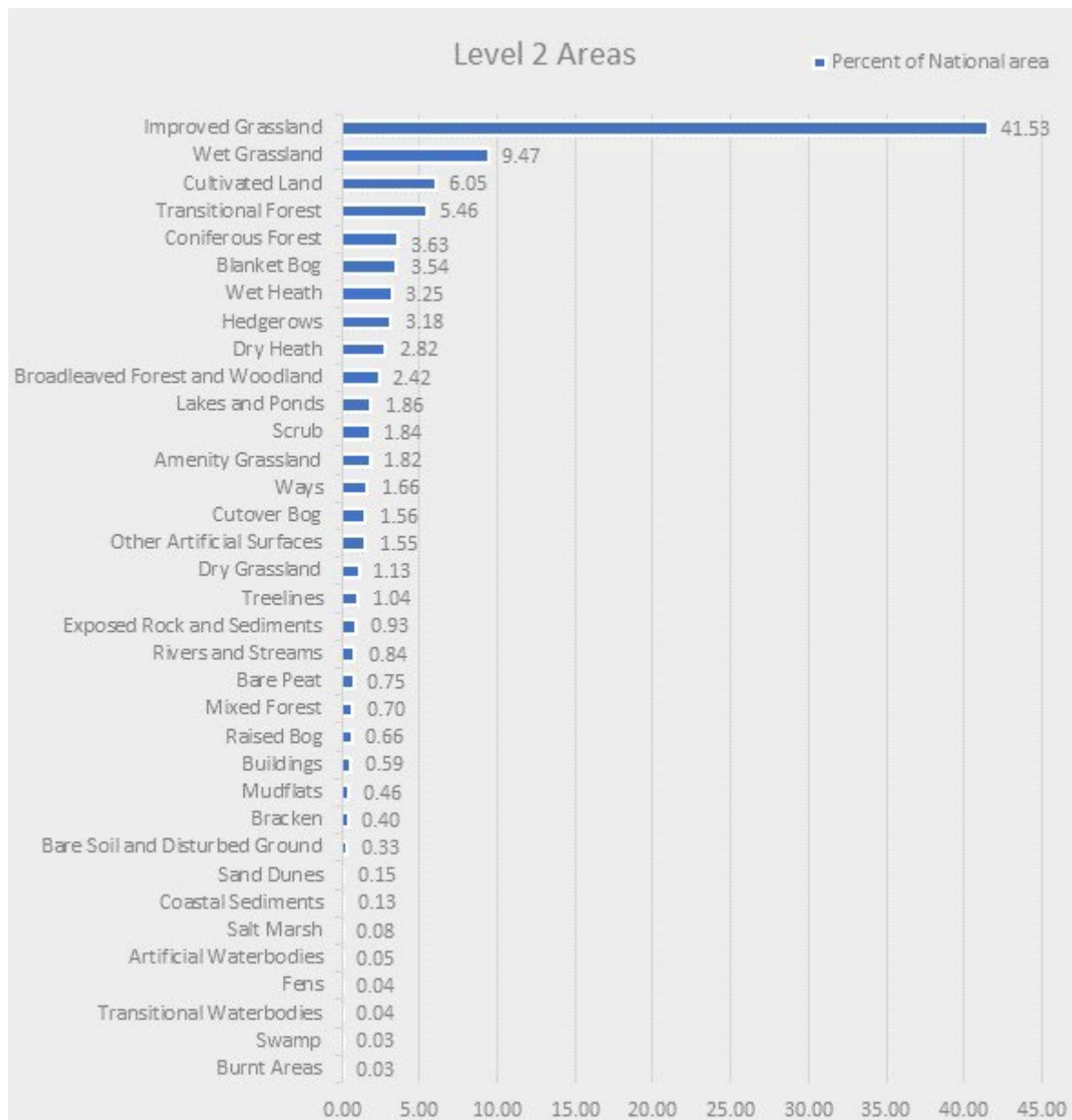
4.9.1 Current Conditions

4.9.1.1 Land Use in Ireland

The National Land Cover (NLC) Map of Ireland (2018) was developed by the National Mapping Division of Tailte Éireann and the EPA. Land cover data obtained from CORINE Land Cover (CLC) Inventory includes archives which document land-use change over time. The comparison of NLC 2018 and CORINE 2018 data at Level 1 (as shown below) indicates that Grasslands and Peatlands were overestimated in CLC 2018, while Forest Areas, Cultivated Land, Heath and Bracken, and Artificial Surfaces were underestimated.



Many of these identified changes have been the result of the differences in the resolution of data, with CORINE 2018 possessing a resolution of 25-hectares and therefore generalising many smaller land cover classes into the dominant classes. In comparison, the NLC dataset possesses a higher resolution with more smaller features mapped into appropriate categories, therefore increasing the representation of these classes and decreasing the percentage area of dominant land cover classes. The NLC is therefore more representative of the land cover classes present in Ireland. An overview of the percentage of national area that each NLC 2018 Level 2 class represents is provided below.



Improved Grassland is the single most dominant land cover type in Ireland. It covers 2.93 million hectares or 41.53% of the total national area. It is the only class that exceeds 10% of the national area with the second most widespread class being Wet Grassland at 9.47%. These two grassland classes together account for over 50% of the national area.

Cultivated Land is the third most dominant land cover type in Ireland 6.05%, the map also shows it has a strong regional concentration in the East and Southeast. Transitional and Coniferous forest lands, both associated with commercial forestry account for 5.46% and 3.63% of the national area respectively. Blanket Bog and Wet Heath occupy 3.54% and 3.25% of the national area respectively. The first national scale mapping of hedgerows in Ireland show that they cover 224,787 ha or 3.18% of the total national area.

All other classes are below 3% of the national area with full national-scale mapping achieved for the first time for many other land cover classes including Dry Heath (2.82%), Broadleaved Forest and Woodland (2.42%), Scrub (1.84%), Amenity Grassland (1.82%), Cutover Bog (1.56%) and Raised Bog (0.66%).



4.9.1.2 Forestry

As of 2022, the 4th National Forest Inventory (NFI) estimate the area of forest in Ireland to be 808,848 hectares or 11.6% of the land area, excluding inland water bodies. County Leitrim possess the highest percentage of forest cover (20.1%), with County Cork with the largest forest area (92,471 ha). Within the national forest estate, the three main forest ownership categories area as follows:

1. **Public:** All State-owned forests, mainly Coillte
2. **Private (grant-aided):** private, afforested land which was in receipt of either grant or premium since 1980
3. **Private (non-grant aided):** private forests not in receipt of grant-aid post 1980. Includes areas semi-natural forests that have regenerated naturally and other long-standing commercial forests on private estate holdings.

There are currently more privately-owned forests than publicly owned forests. In 2022, 49.1% of forests were in State ownership, which has seen a reduction from 50.8% in 2017. The expansion of the private sector forest cover has been attributed to afforestation and natural expansion of semi-natural forests.⁶⁶

Sitka spruce is the common tree species within these forests, occupying 44.6% of the total forest area. The species composition of the total stocked forest (i.e., the area with trees present) area across Ireland can be viewed in Table 4-7 below.

Table 4-7: Species Composition of the total stocked forest area (NFI, 2022)

Species	Area (1,000s ha)	Percentage
Sitka Spruce	360.9	50.6
Norway Spruce	27.0	3.8
Scots pine	8.4	1.2
Other pine spp.	62.8	8.8
Douglas fir	9.3	1.3
Larch spp.	23.8	3.3
Other conifers	2.9	0.4
Pedunculate and sessile oak	20.2	2.8
Beech	10.7	1.5
Ash	24.3	3.4
Sycamore	10.5	1.5
Birch spp.	58.0	8.1
Alder spp.	19.7	2.8
Other short living broadleaves	63.3	8.9
Other long living broadleaves	11.4	1.6
Total	713.2	100

⁶⁶ The Department of Agriculture, Food and the Marine: Forest Statistics Ireland 2024
(<https://www.gov.ie/pdf/?file=https://assets.gov.ie/297338/a280944a-dace-4812-9d6d-48822a5ab87e.pdf#page=null>, accessed 26/11/2024)



Level 2 Categories of the NLC 2018 dataset combine to include coniferous forest, mixed forest, transitional forest, and broadleaved forest and woodland and totals to a forest area of 862,479 ha or 12.2% of the total land area. A breakdown of this with the inclusion of hedgerows and treelines is provided in Table 4-8.

Table 4-8: Species Composition of the total stocked forest area (NFI, 2022)

Code (Level 2 of NLC 2018)	Land Cover Class	Area (hectares)	% of Area
410	Coniferous Forest	256,443	3.6%
420	Mixed Forest	49,503	0.7%
430	Transitional Forest	385,673	5.5%
440	Broadleaved Forest and Woodland	170,860	2.4%
Total Forest (410-440)		862,479	12.2%
460	Hedgerows	224,787	3.2%
470	Treelines	73,393	1.0%
Total Hedgerows (including treelines) (460-470)		298,180	4.2%
450	Scrub	130,098	1.8%

The Department of Agriculture, Food and the Marine has published an eligibility document entitled 'Land Types for Afforestation: Soil & Fertility' (2024),⁶⁷ which provides guidance for grant applications for the planting and expansion of forest resources. Soil types eligible for such applications are:

- Mineral soils: Eligible soil type for afforestation under all Forest Types (FTs).
- Organo-mineral soils with a peat (organic layer) depth of 30cm or less: Eligible soil type for afforestation under all FTs.
- Modified fens and modified cutaway raised bogs: Eligible soil type for afforestation, but only under those Forest Types (FTs) involving native woodland creation and only if capable of supporting the establishment and development of the most relevant native woodland type identified for the site, without further drainage.

The following examples are likely to fall under one of the aforementioned soil type categories:

- Cultivated and fertilised fields used for tillage, crops and pasture grazing, and land reclaimed for grazing prior to the 1st of January 2011.
- Fields and dry grassland hill sites where the parent material is limestone or Silurian shale, or where steeper slopes limit the use of agricultural machinery.
- Pasture dominated by soft rush, where poorer drainage restricts agricultural activity.

⁶⁷ The Department of Agriculture, Food and the Marine: Land Types for Afforestation: Soil & Fertility (June 2024) (<https://assets.gov.ie/121183/49933794-2a40-4cef-be2b-cef1adacd43f.pdf>, accessed 26/11/2024)



- Areas of Midland fen peats that cannot be wetted, and peats previously reclaimed for agriculture and now supporting rush pasture vegetation.
- Lands showing evidence of agricultural improvement, either through the soil conditioning of animal husbandry / manuring or historic crop production.
- Old hill pastures composed predominately of velvet bent, tufted hair-grass, sheep's fescue, Yorkshire-fog and sweet vernal-grass.
- Sites with the following species of rush: sharp-flowered rush, compact rush, bulbous rush and soft rush.
- Drier sites on hillsides, comprising dense bracken.
- If present, purple moor-grass should occur with better pasture grasses, i.e., sweet vernal-grass or bent grass, or with abundant soft rush, and should not constitute heathland-type vegetation.

According to the DAFM, ineligible land for forestry in Ireland includes the following:

- Sites that do not meet the soil requirements set out in Section 2 of the document (i.e., mineral soils, organo-mineral soils with a peat (organic layer) depth of 30 cm or less, or modified fens and modified cutaway raised bogs).
- Sites with a R+N score of less than 6.0.
- Severely exposed sites and some sea-facing locations.
- Sites over 300 m above sea level in the west of Ireland, and over 400 m above sea level in the east of Ireland.
- Sites that are prone to flooding and / or cannot be adequately drained. Exceptions may exist in relation to some site types potentially suitable under Native Woodland Scenario 6: Alluvial Woodland.
- Sites with rock outcrop and associated shallow soils accounting for 25% or more of the area.
- Sites with shell marl within 70 cm of the soil surface.
- Shallow soils.
- Private gardens.
- Golf courses (with the exception of areas that are not an integral part of the playing course – such area may be considered for afforestation, on application).
- Lands excluded for environmental reasons, due to sensitivities concerning water, biodiversity, archaeology, etc. Examples include sites within Special Protection Areas (SPAs) for birds or containing Annex 1 habitats that are protected under the EU Habitats Directive 92/43/EEC. This exclusion does not apply to environmental setbacks incorporated into the afforestation design, as per the current Environmental Requirements for Afforestation.

4.9.2 Future Trends (Evolution of Baseline)

The largest land use activity in Ireland is agriculture. The future of Irish agriculture depends on initiatives such as Food Vision 2030 (which has an aim of delivering a climate-neutral food system by 2050, with verifiable progress by 2030), Bord Bia's Origin Green Initiative (which enables farmers and producers to set targets aimed at protecting the environment and sustainability) and the Sustainable Healthy Agri-food Research Plan (SHARP) to make the best use of research and new technology in agriculture.



The Irish Government has made a commitment to increase the forest area in Ireland to 18% of the total land area. Afforestation is detailed in CAP25 as a major land-use measure for carbon sequestration, with a commitment to the enhanced delivery of afforestation and increased use of harvested wood products also included. CAP25 identifies specific measures to deliver reductions in emissions, including supporting Coillte's Strategic Vision, the management of the Coillte estate to increase carbon storage by managing the age profile of forests to improve carbon efficiency, expanding proactive silvicultural management of the broadleaf estate, and redesigning peatland forests to improve the carbon balance.

The NPWS have prepared a National Peatland Strategy, a Draft Raised Bog SAC Management Plan, and a Raised Bog NHAs Review, to protect and manage significant peatlands in Ireland, which are designated under EU and National legislation.

The National Just Transition Fund is a fund to support the transition of land uses to low carbon alternatives, additionally in 2023 each local authority has prepared Local Authority Climate Action Plans which will support the just transition process and aims to facilitate sustainable future development options related to energy need. Therefore, it is likely that the future trends related to land use – and land use change – are likely to be favourable in terms of environmental impacts due to the collaborative thinking approach being taken through these initiatives.

4.9.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Land Use are as follows:

- Constraints from pressures such as urban sprawl and agriculture.
- Degradation of interacting environmental components (soil and water environments) from construction activity in forest areas.
- The requirement to achieve Land Use, Land Use Change and Forestry Greenhouse Gas (GHG) emission reductions under the EU LULUCF Regulation.⁶⁸

⁶⁸ This regulation sets an EU-wide net target of 310 million tonnes of CO₂ equivalent carbon removals in the LULUCF (Land Use, Land Change and Forestry) sector by 2030. Each member state has a specific target under this regulation which they must meet to contribute towards the EU-wide net target. Ireland's binding target is to achieve a reduction of 0.6 Mt CO₂ equivalent LULUCF emissions by 2030, relative to average levels in 2016-2018.



4.10 Air Quality and Noise

4.10.1 Current Conditions

4.10.1.1 *Air*

The World Health Organization (WHO) has identified poor air quality as the single largest threat to public health. Poor air quality is linked to premature death and life-limiting conditions such as dementia, type 2 diabetes and neonatal mortality. Long-term exposure to particulate matter contributes to the risk of developing cardiovascular and respiratory diseases, as well as lung cancer

According to the EPA's 2023 report on Air Quality in Ireland,⁶⁹ the nation is in compliance with current EU standards under the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC)⁷⁰ with no pollutant exceeding the EU legal limit values. However, there are localised areas of pollution which are a concern. It is estimated that approximately 1,600 premature deaths occur in Ireland annually due to air pollution. Fine particulate matter (PM_{2.5}) from solid fuel combustion and nitrogen dioxide (NO₂) from vehicle emissions are the main pollutants of concern in Ireland, as well as Ammonia (NH₃) emissions from agriculture. People's health and the health of our environment is impacted by these pollutants.

Ireland's ambition in the Clean Air Strategy is to move to alignment the WHO Air Quality guideline limits.⁷¹ At present, Ireland is not on track to achieve the interim targets in the guidelines that they aimed to achieve by 2026. Moving forward, the achievement of future targets will be very challenging.

Under the CAFE Directive EU member states must designate 'Zones' for the purpose of managing air quality. There are four such zones in Ireland as follows:

- Air Zone A: Dublin conurbation.
- Air Zone B: Cork conurbation.
- Air Zone C: Other cities and large towns.
- Air Zone D: Rural Ireland.

4.10.1.2 *Noise*

The European Environment Agency (EEA) states that '*environmental noise can be defined as unwanted or harmful outdoor sound.*' The EU Environmental Noise Directive (2002/49/EC)⁷² relates to the assessment and management of environmental noise. This Directive called for the development of strategic noise maps and action plans for major roads, railways, airports and cities. The fourth round of noise mapping is the most recent undertaken (round 4). The maps cover major roads, major railways, one major airport (Dublin Airport) and the cities of Dublin, Cork and Limerick (i.e. agglomerations of more than 100,000 inhabitants).

⁶⁹ Environmental Protection Agency (2024) *Air Quality in Ireland – Report 2023*, Environmental Protection Agency: Ireland, available: [Air Quality in Ireland 2023](#) [accessed 26 November 2024].

⁷⁰ Transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011).

⁷¹ World Health Organization (2021) *WHO global air quality guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide*, License: CC BY-NC-SA 3.0 IGO, World Health Organization. <https://iris.who.int/handle/10665/345329> [accessed 26 November 2024].

⁷² Transposed into Irish law as Statutory Instruments: The European Communities (Environmental Noise) Regulations 2018 (S.I. No. 549/2018) and its amendment S.I. No. 663/2021 - European Communities (Environmental Noise) (Amendment) Regulations 2021.



Health issues related to long-term noise exposure include annoyance, sleep disturbance, cardiovascular and metabolic issues. Anthropogenic noise remains a pressure on marine mammals and other wildlife. The most widespread sources of noise pollution and exposure in Ireland are various forms of transport. Environmental noise can also arise from a variety of other sources including the night-time economy, domestic or neighbourhood noise and industrial or commercial activities. The Round 4 Noise Maps day-evening-night noise levels (L_{den}) for the Plan area is displayed in Figure 4-18.

4.10.2 Future Trends (Evolution of the Baseline)

Although air quality in Ireland is good, there is potential for pollutants to rise above emerging limits/targets in the future. The CAFE directive has recently been subject to review and is aiming to move Europe's air quality standards towards the health-based WHO guideline limits in a stepwise manner. Its new provisions include tighter limits on air pollutants and a strengthened regime for Member States' air quality plans when new limits have not been met. This is a future concern for Ireland as current monitoring results were higher than the WHO air quality guidelines for a number of pollutants including: particulate matter (PM), nitrogen dioxide (NO_2), sulphur dioxide (SO_2) and ozone (O_3)⁷³. The main sources of these pollutants are the burning of solid fuel in towns and road traffic. Residential emissions are projected to decrease under existing and future measures that have been introduced. Transport-related air pollution emissions is also set to decrease in the future under reduction actions.

Future noise trends are difficult to predict. The European Communities (Environmental Noise) Regulations may be revised in future to enforce a stricter level of noise management, and further strategic noise maps and plans are to be developed. The EU Zero Pollution Action Plan sets out to reduce the share of people chronically disturbed by transport noise by 30% by 2030 across the EU. New measures need to be introduced in Ireland to contribute to this reduction. Current WHO guidance values⁷⁴ on noise levels above which it considers that adverse effects on health and sleep occur are below the Environmental Noise Directive (END) mandatory noise level reporting thresholds of 55 dB (L_{den}) and 50 dB (L_{night}). This may have implications in the future with regards to future noise level limits.

⁷³ Environmental Protection Agency (2024) *Ireland needs to tackle solid fuel burning and transport emissions to meet Clear Air Strategy ambition and protect public health*, available: [Ireland needs to tackle solid fuel burning and transport emissions to meet Clear Air Strategy ambition and protect public health | Environmental Protection Agency](#) [accessed 26 November 2024].

⁷⁴ World Health Organization (2018) *Environmental Noise Guidelines for the European Region*, WHO: Denmark, available: [9789289053563-eng.pdf](#) [accessed 26 November 2024].



4.10.3 Key Considerations Relating to the Draft LUSIP

Overall, the LUSIP is likely to have positive effects on air quality due to the nature of the plan; however, there are potential issues which may arise due to the implementation. The key issues in relation to Air Quality and Noise are as follows:

- Estate developments, particularly during the construction phase, may have a temporary negative impact on air quality and create noise pollution.
- Renewable energy developments supported by the Plan may have impacts on noise pollution, particularly at sensitive receptors which are in proximity to the development.
- Increased timber production and supply will lead to increased leading timber transport, resulting in negative air quality, climate and noise effects.
- Increased nitrogen deposition in ecologically sensitive areas from forestry activities could lead to negative environmental effects including eutrophication and biodiversity loss.
- Forestry supported by the Plan has the potential to contribute to air quality improvements through the absorption of pollutants (including carbon dioxide) and the release of oxygen through photosynthesis.



4.11 Water

4.11.1 Current Conditions

The EU Water Framework Directive (WFD) (2000/60/EC) establishes a framework for the protection of both surface and groundwater. Transposing legislation outlines the water protection and water management measures required in Ireland to maintain high status of waters where it exists and to prevent any deterioration in existing water status. The 'Water Action Plan 2024: A River Basin Management Plan for Ireland' is Ireland's third River Basin Management Plan 2022-2027. It outlines the measures the Government and other sectors are taking to protect and restore water quality in Ireland. The overall aim of the plan is to ensure that our natural waters are sustainably managed and that freshwater resources are protected so as to maintain and improve Ireland's water environment. Within this plan there are ten actions related to specifically forestry that set out how this sector can help support the achievement of the overall Water Action Plan aim. WFD catchments and waterbodies are displayed in Figure 4-19.

There are over 4,810 surface and groundwater bodies in Ireland. Water quality data is collected by the EPA⁷⁵ and publishes a full assessment of the condition of Ireland's waters every three years. The latest assessment for the period 2016-2021 shows that over half (54%) of Ireland's surface waters are in good or better ecological status which means that nearly half (46%) are in unsatisfactory condition. There has been a 1% decline in the ecological health of monitored river water bodies since the 2013-2018 period. The WFD surface water at-risk status is shown in Figure 4-20. The majority of Ireland's population live on or near the coast and this creates pressure for transitional waters. Pollution from agricultural runoff (nitrates, phosphates etc.) and urban wastewater pose the biggest threat to transitional and coastal waters.

The EPA's Water Quality Indicators Report for the country was produced in 2023.⁷⁶ This report concluded in the following:

- The proportion of rivers in satisfactory biological condition is relatively unchanged since 2018 and there is no indication yet of an improvement.
- Of the 1,459 river water bodies monitored in 2022 and 2023 there has been a further small net decline in biological quality of 45, with the number of declines (232) exceeding the number of improvements (187).
- There has been a slight decline in the proportion of lakes with satisfactory (high and good) biological quality, driven by a reduction in the number of lakes with high biological quality.
- Elevated levels of nitrogen in Ireland's waters are found mainly in the east, south east and south of the country and are too high to support good water quality in our estuaries. This is primarily attributable to intensive agricultural activities on freely draining soils in these areas.
- Total phosphorus concentrations were too high in rivers and lakes in Ireland. The majority of lakes with elevated phosphorus are in the border region.

The EU Groundwater Directive (2006/118/EC) uses a holistic approach to groundwater by addressing the relationships between groundwater, surface water and ecological receptors. Groundwater is considered by its ecological status, which is based on two assessments: chemical and quantitative status. Both of these need to be in good condition for the overall water body to be classified as good.

⁷⁵ [EPA Maps](#). Water.

⁷⁶ Water Quality in 2023: An Indicators Report (EPA, 2023).



Pressures on waterbodies that are failing to meet the WFD's overall objective of 'good' status will be identified by the SEA. The EPA⁷⁷ have identified forestry as the third most prevalent significant pressure on waterbodies, impacting approximately 12% of all surface waterbodies that are 'At risk' of not achieving their environmental objective under the Water Framework Directive. The EPA note that forestry impacts a relatively high proportion of High Ecological Status waterbodies which are often upland vulnerable catchments in the headwaters of streams. These high-status headwaters are important 'biodiversity reservoirs' that play a role in restoration further downstream. The most common water quality issues arising from forestry relate to the release of sediment and nutrients into the aquatic environment, hydro-morphological impacts and acidification. Waterbodies identified as being at risk from forestry are shown in Figure 4-21. The identification process took place in accordance with the EPA's Water Framework Directive Guidance on Characterisation Methodology V4.0 – September 2016 and considered water quality and the correlation between forestry activities (planting and establishment, drainage, clearfelling) included in various forestry related datasets, including the Forest Service Forest Inventory and Planning System (FIPS) dataset (2007) and Coillte's land use type dataset.

Forestry can, however, achieve multiple environmental benefits in a river basin catchment or sub-catchment context. Forests act as natural water regulators, moderating the flow into watersheds by absorbing water through their dense vegetation and root systems. Forests aid in water quality as they naturally filter and trap pollutants and sediments. Forests are also good at providing erosion control as their roots stabilize the soil and their canopy protects the soil from direct rainfall, all helping to reduce the movement of sediment into the water system. Forests aid in natural groundwater recharge as their presence enhances the ability of the soil to absorb water, thus facilitating the percolation of water down into the aquifers, replenishing them. Lastly forests which support wide range of biodiversity allow for increased functionality and health of forest watershed systems as there is a diverse range of plants and animals to carry out roles that contribute to the stability and resilience of the watershed.

With regards to water quality, high risk areas for phosphorus loss typically have poorly draining soils and dominant overland flow pathways. Whereas areas with freely draining soils and substantial groundwater pathways are high risk for nitrogen losses.

Pollution Impact Potential (PIP) maps have been created by the EPA to show the highest risk areas for diffuse phosphorus (P) loss to surface water and diffuse nitrogen (N) loss to surface and groundwater. These maps act as signposts for where further actions should be prioritised and can be used to target measures in catchments where monitoring data has indicated that there is a problem. PIP maps for the Plan area are shown in Figure 4-22 (Nitrate) and Figure 4-23 (Phosphorus).

The SEA provides information on aquifer vulnerability, aquifer productivity and entries to the WFD's Registers of Protected Areas.

The GSI have assigned aquifers into appropriate categories (see Figure 4-24), and rated groundwaters according to both their productivity and vulnerability to pollution. Aquifer vulnerability (see Figure 4-25) refers to the ease with which pollutants of various kinds can enter into groundwater. The GSI also rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. This is referred to as aquifer productivity and is mapped on Figure 4-26.

⁷⁷ Report series: Impacts of pressures on water quality Forestry, Environmental Protection Agency Catchment Science & Management Unit, May 2024



Over 70% of public water supplies take groundwater from boreholes, springs and infiltration galleries. Drinking Water Source Protection Areas have been mapped by GSI. These are areas outlined around groundwater abstraction points (e.g. borehole) that provide drinking water, which aim to protect groundwater by placing controls on activities within all or part of the zone of contribution of the source. Two Source Protection Areas are outlined. The Inner Protection Area, which aims to protect against the effects of human activities that might have an immediate effect on the source and against microbial pollution. The Outer Protection Area covers the rest of the zone of contribution to the groundwater abstraction point. Drinking water Source Protection Areas within the Plan area are shown on Figure 4-27.

In accordance with the requirements of the WFD, the EPA have compiled the Register of Protected Areas (RPAs). These RPAs are identified as areas requiring special protection under existing national or European Legislation, either to protect their surface water or groundwater, or to conserve habitats/species that directly depend on those waters. RPAs are displayed in Figure 4-28 (a-d).

The EU Bathing Water Directive (2006/7/EC) aims to protect the environment and the health of Europeans by attaining good bathing water quality throughout the EU. This directive is implemented in Ireland through The Bathing Water Quality (Amendment) Regulations 2024. Bathing water quality is assessed through water quality samples taken by local authorities before the bathing season (1st June - 15th September) begins and at regular intervals throughout the season. Based on these results the bathing water is then classified under four different water quality designations: excellent, good, sufficient, and poor. At present, in 2025, there are 153 identified bathing waters within Ireland that are being monitored for bathing water quality. Nationally the bathing water quality within Ireland is improving with 96% of the 151 monitored sites in 2024 meeting or exceeding the minimum requirement of 'sufficient'.⁷⁸ However, Ireland is below the EU average (85.4%) for bathing waters attaining excellent quality, with 81% of waters achieving this water quality classification in 2024. The number of bathing waters that are of Poor quality in 2024 was two, this is a decrease from the five identified in 2023. An overview of recent Bathing water compliance records is provided in Figure 4-29.

The EU Marine Strategy Framework Directive (2008/56/EC) aims to achieve Good Environmental Status (GES) for all marine waters in Europe and protect the resource base for marine related economic and social activities. Ireland is currently under its third cycle of the Marine Strategy Framework Directive (MSFD) (2023-2028). The MSFD is implement through the national Marine Strategy in Ireland. The Marine Strategy aids in the accomplishment of this 'GES' by setting out the steps that need to be taken. It is broken into three parts: Assessment and Environmental Targets, Monitoring Programmes, and Programme of Measures. Each part is reported in two-year intervals.

As an Ireland nation, Ireland has a large marine territory, with over 880,000 km² of waters classified as either estuarine, coastal or marine. According to the EPA's 2022 report on '*Water Quality in Ireland 2016-2021*' which sets out the latest assessment of the health of Ireland's rivers, lakes, canals, groundwaters, and transitional (estuaries) and coastal waters, of Ireland's surface waters the coastal waters have the highest percentage of waters at high or good ecological status (81%) while estuarine waters had the worst (36%). Nutrient enrichment is a significant pressure affecting nearshore and estuarine waters. While not yet a problem in wider coastal and marine areas, the continued pressure will likely have an effect in these areas in time if measures identified under the MSFD and WFD are not fully implemented to address this.

⁷⁸ EPA (2025) *Bathing Water Quality in Ireland - A report for the year 2024* - Available at https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/Bathing-Water-Quality-in-Ireland-2024_Final.pdf



The EPA's Water Quality Indicators Report (2023),⁷⁹ concluded in the following for estuarine and coastal bodies:

- 17% of our estuarine and coastal water bodies assessed were in unsatisfactory condition for nitrogen, while nitrogen loads to the marine environment are largely unchanged over the past four years.
- The elevated levels of nitrogen in our waters are found mainly in the east, south east and south of the country and are too high to support good water quality in our estuaries. This is primarily attributable to intensive agricultural activities on freely draining soils in these areas.
- The vast majority of estuaries and coastal waters have satisfactory concentrations of winter phosphate and annual phosphate loadings to the marine environment have been broadly unchanged over the last few years.

Under the MSFD there are eleven environmental descriptors that are required to be reached in order to attain GES. The most recent Draft Marine Strategy Framework Directive assessment (published for public consultation in 2024) indicated that five descriptors have met GES, three have achieved GES for some elements but some information is still lacking, and one descriptor has insufficient information to assess its environmental status. The table from the EPA's 2024 State of the Environment Report that details the draft Good Environmental Status (GES) Assessment for the eleven MSFD descriptors can be seen below.

Descriptor	Draft 2024 MSFD assessment
1. Biological Diversity	Achieved GES for some elements of biological diversity, but the status of many species groups is unknown. Numerous species, in particular a significant proportion of fish species, are not at GES
2. Non-indigenous species	Achieved GES
3. Population of commercial fish/ shellfish	GES has been achieved for 29 stocks of commercially exploited fish and shellfish. GES has not been achieved for 46 stocks, and the status of 99 stocks remains unknown
4. Elements of marine food webs	Environmental status for this descriptor remains unclear
5. Eutrophication	Achieved GES
6. Sea floor integrity	GES has been achieved for 75% of the MSFD areas; however, the status of 15% of the area remains unknown and approximately 11% has not achieved GES. Disturbance due to bottom trawling is widespread, with 40% of the MSFD assessment area affected to varying degrees
7. Alteration of hydrographical conditions	Achieved GES
8. Concentrations of contaminants	GES has been largely achieved for concentrations of most contaminants in seawater, sediments and biota in Irish coastal and marine waters. Concentrations of most parameters assessed are at levels that ensure the protection of the marine environment
9. Contaminants in fish/seafood for human consumption	Achieved GES
10. Marine litter	GES has not been achieved for marine litter
11. Introduction of energy including underwater noise	GES has been achieved for continuous and impulsive noise

An overview of the latest status of transitional and coastal waters in Ireland is provided in Figure 4-30.

⁷⁹ Water Quality in 2023: An Indicators Report (EPA, 2023).



4.11.1.1 Flood Risk

Flooding, particularly from fluvial and coastal sources, is an increasing problem in Ireland and there have been notable flood events over the last ten years⁸⁰. The OPW is the lead agency tasked with the management of flood risk in Ireland. In 2022, the OPW reviewed their 2016 Flood Risk Management Plans (FRMP). The purpose of each FRMP is to outline the long-term strategy to manage flood risk in Ireland.

The Water assessment will utilise information from the following sources:

- EPA and Marine Institute - WFD Data.
- GSI data on groundwaters, aquifers and bedrock information.
- Catchment Flood Risk Assessment and Management (CFRAM) Study and associated FRMPs (OPW, as reviewed 2022).
- Flood Risk Assessment (FRA) Mapping⁸¹ (OPW).

4.11.2 Future Trends (Evolution of the Baseline)

Ireland currently has a good understanding of the causes of water pollution, due to the implementation of the WFD. Proposed future development must meet the requirements of the WFD and aim to drive improvements and maintenance of water quality in the short term and provide a basis for the continued maintenance of good status in the future. It is envisaged water quality in Ireland broadly will gradually improve in line with the objective of the WFD.

4.11.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Water are as follows:

- Potential pressures and impacts on water body status from forestry activities (e.g., increased use of fertilisers, potential sedimentation (during afforestation, reforestation and felling in particular) and accidental spillage/run-off).
- Changes in hydrology (and reliant aquatic ecology) due to forestry activities.
- Potential impact of Coillte development (e.g., peatland restoration/re-design projects, tourism and recreation development) on water quality and hydrology (e.g., due to construction phase polluting run-off, unintended release of nutrients, adverse changes in hydrological conditions etc.)
- Potential benefits on river basin catchments/sub-catchments as a result of well-managed forestry or peatland restoration/re-design projects.

⁸⁰ Floodlist (2022) Archive of significant flood events in Ireland - Available at <https://floodlist.com/tag/ireland>

⁸¹ OPW (2022) Flood risk maps and data platform - Available at <https://www.floodinfo.ie/map/floodmaps/>



4.12 Material Assets

4.12.1 Current Conditions

4.12.1.1 *Forestry and Forestry Products*

Coillte's main business operation is the forestry sector, with the mission to balance and deliver the multiple benefits of Irish forests to society. In 2024, Coillte planted 15 million trees and reforested over 6,000 hectares (ha) of new forest across Ireland.⁸² Coillte own and manage about 440,000 ha of lands, which comprise nearly 7% of total land area in Ireland. Of the 440,000 ha of land owned and managed by Coillte, approximately 364,000 ha (84%) is forested land. The non-forested land consists of a range of land-cover types, unsuitable for afforestation, these include upland heaths and bogs, lakes, ponds and swamps and are generally maintained in their current state. Ca. 16% of this is managed for biodiversity. Roundwood for consumer purposes produced by Coillte in 2020 totalled 2.31 million m³.

4.12.1.2 *Forest-Based Energy*

Bioenergy, as defined by the SEAI,⁸³ is a form of renewable energy generated when biomass fuel is burned. Biomass fuels are sourced from organic material such as harvest residue, purpose-grown crops, and organic waste. Bioenergy is a low-carbon renewable energy that can be used for phasing out carbon-intensive fossil fuels.

The EU Green Deal, Fit for 55, EU Forestry Policy, and the Renewable Energy Directive promote the use of wood under the 'cascade' principle. The principle notes that the use of wood material, according to a priority based on the added value and carbon storage that can be potentially generated, raw material from forests should preferably be used for construction, furniture and other products with longer life spans, capable of storing the biogenic carbon in the products, and bioenergy should be preferably derived from the use of waste wood, wood residues, or recycled, end-of-life products.

Biomass from Irish forests is considered a renewable energy source, on the condition that the forests are sustainably managed and harvested trees are replaced. Wood residue derived from low-value tree parts, generated from forest felling or as part of forest maintenance, is the most commonly-used solid biomass fuel worldwide. According to COFORD's *All Ireland Roundwood Production Forecast 2021-2040*, the potential wood mass available for energy and other uses is 34.78 million m³ over the forecast period.

4.12.1.3 *Renewable Energy Developments*

The electricity sector requires a 75% reductions in emissions (based on 2018 levels) by 2030 based on the sectoral emissions ceiling of 40 MtCO₂eq. for 2021-2025. To achieve this goal, the share of renewable energy will need to be increased up to 80%. The EU 2030 Climate and Energy Framework (2018) incorporates EU legislative measures to achieve three EU-level key targets:

- At least a 40% reduction in greenhouse gas emissions
- At least a 32% share for renewable energy and
- At least a 32.5% improvement in energy efficiency.

⁸² Coillte: Forestry (<https://www.coillte.ie/our-business/our-divisions/forestry/>, accessed 26/11/2024)

⁸³ SEAI: What is Bioenergy? (<https://www.seai.ie/renewable-energy/bioenergy/what-is-bioenergy>, accessed 26/11/2024)



The generation of renewable energy has been increasing over the last decade, with a growth in the number of wind farms. Wind Energy Ireland (WEI) statistics⁸⁴ indicate, as of 2024, that there are over 300 wind farms in the Republic of Ireland, with a total installed capacity of 4,332.5 megawatts (MW). In 2023, 40.7% of Ireland's electricity supply was sourced from renewable energy (up from 38.6% in 2022), with over a third of total electricity sourced from wind energy⁸⁵.

Coillte's land bank has contributed considerably to Ireland's 2020 target of achieving 40% of electricity consumption from renewable sources. One of Ireland's largest wind farms, Galway Wind Park, is located in Cloosh Valley, Connemara in County Galway. Galway Wind Park was developed by SSE Renewables and Coillte and became operational in 2017. The wind farm comprises 58 3 MW wind turbines and producing enough renewable energy every year to power over 140,000 Irish homes.⁸⁶

4.12.2 Future Trends (Evolution of Baseline)

There are a number of national strategies and plans in place for Ireland's energy needs, with specific plans developed for renewable energy. This includes CAP25, Local Authority Climate Action Plans, the Government's White Paper Ireland's Transition to a Low Carbon Energy Future (2015-2030).

The forestry sector is a key asset to the Republic of Ireland. The Irish Government have given a commitment to the enhanced delivery of afforestation, with an increase of the forest area in Ireland to 18% of the total land area forecasted, along with an increased use of harvested wood product to meet climate targets and resource demands. In order to achieve this, Ireland's Forestry Strategy Implementation Plan has set a target of 8,000 ha of afforestation per annum. At present afforestation rates are well below this annual target (ca. 2,000 ha/annum). Research done by the EPA, SeQUESTER (Scenarios Quantifying land Use & Emissions Transitions towards Equilibrium with Removals) suggested that between 13,000 hectares and 20,000 hectares per annum of afforestation would be needed from 2025 to 2050 to offset projected CO₂ and N₂O emissions from the agriculture sector.⁸⁷ Associated land-use, such as the development of renewable energy infrastructure is also expected to increase.

4.12.3 Key Considerations Relating to the Draft LUSIP

The key considerations in relation to Material Assets include:

- Economic growth and development of infrastructure will increase the energy requirement within Ireland - particularly in the heat and transport sectors as they are electrified.
- Demands for increased renewable infrastructure and associated connection networks.
- Increased demand for construction materials (wood) with population growth and housing targets defined in the National Planning Framework and lower-order land use plans.
- The Plan will support the carrying out of commercial forestry and the delivery of wood product to the market. Wood product is a valuable material asset that underpins various sectors, including the construction sector.

⁸⁴ Wind Energy Ireland: Wind Stats (<https://windenergyireland.com/about-wind/the-basics/facts-stats>, accessed on 26/11/2024)

⁸⁵ SEAI: Renewable Energy in Ireland (<https://www.seai.ie/data-and-insights/seai-statistics/key-publications/renewable-energy-in-ireland>, accessed on 26/11/2024)

⁸⁶ SSE: Galway Wind Park (<https://www.sserenewables.com/onshore-wind/ireland/galway-wind-park/>, accessed 26/11/2024)

⁸⁷ University of Limerick (2024) *Towards a Climate-neutral Land Sector by 2050 - Scenarios Quantifying Land-Use & Emissions Transitions Towards Equilibrium with Removals* (SeQUESTER), EPA, available: [Research Report-457.pdf](#)



4.13 Tourism and Recreation

4.13.1 Current Conditions

Tourism and recreation are influenced by a range of factors in Ireland. For example, natural heritage in Ireland is characterized by a range of scenic landscapes which offer tourism and recreational opportunities such as walking, beaches, equestrian activities and golfing.

Faillte Ireland launched their four brand strategies⁸⁸ which will define the spatial scope and spread of future tourism developments within Ireland. The global brand success may result in increased infrastructure demands to previously less trafficked areas. As Ireland moves towards a low-carbon economy, Fáilte Ireland will deliver the Regenerative Tourism Scheme as part of the EU Just Transition Fund. Through this scheme, we'll develop tourism projects across the Midlands – sustaining jobs, businesses and communities. In March 2017, each local authority launched Tourism Strategy Statements and Workplans. These are aligned with the objectives of the Local Economic and Community Plans (LECPs). The Tourism Strategy Statements and Workplans are aligned with local, regional and national strategies and plans, in particular the Regional Action Plans for Jobs and the Government's tourism policy, 'People, Place and Policy: Growing Tourism to 2025'. Impact occurrence and severity are predicted by site type, visitor demographics and activity profile (Torsney & Buckley 2023).

Faillte Ireland's Tourism Barometer Strategic Research and Insight January 2024 identifies that:

- About three in five (59%) of businesses say they have had more visitors in 2023 compared to 2022.
- Only about one in five (22%) noted visitor numbers down.
- The highest proportions reporting to be up in 2022 are found among Inbound Tour Operators & Destination Management Companies (76%), hotels (75%), attractions (72%) and tour guides (72%).
- The North American market was up for 61% of operators and down for only 20%
- 44% of businesses expect to be up on visitors in 2024 and 21% expect to be down.
- The top three concerns in 2024 are rising costs besides energy or payroll (58%), rising energy costs (55%) and rising payroll costs (51%).

Faillte Ireland has also recently launched the Climate Action Programme which will provide support and investment advice for tourism businesses to accelerate the decarbonisation of the tourism sector in line with national carbon emissions reduction targets. There may be interactions between the programme and potential Coillte recreational areas and development.

Landscape is also an important aspect in terms of Tourism, see Section 4.6. Cultural Heritage - Archaeological and Architectural sites also support heritage-related tourism and recreation, see Section 4.7.

The assessment of Tourism and Recreation will also utilise the follow information sources:

- Department of Transport, Tourism and Sport
- Central Statistics Office (CSO)
- Recreational sailing groups and ferry operators
- Fáilte Ireland
- National Trails Office

⁸⁸ Wild Atlantic Way, Dublin's a Breath of Fresh Air, Ireland's Ancient East and Ireland's Hidden Heartlands



4.13.2 Future Trends (Evolution of the Baseline)

There is now a requirement for local authorities to produce county specific tourism masterplans to facilitate and coordinate tourism in the county and region. The four brand strategies from Failte Ireland focus on only providing funding and promotion support to environmentally compliant plans/projects. In the past decade there has been increased communication and alignment between tourism policy and on the ground action through the NPF and associated tourism plans.

The high-level coordination and comprehensive set of tourism policies which are now clearly entrenched in the working processes of Failte Ireland and the local authorities lends itself to tourism having a more environmentally aware future. Additionally, Failte Ireland has developed a national tourism monitoring programme to further the current understanding of environmental impacts from tourism and have committed to providing the learning outcomes from this monitoring programme in the form of guidelines.

4.13.3 Key Considerations Relating to the Draft LUSIP

- Tourism and recreation development projects supported by the Plan may impact upon sensitive environmental receptors such as biodiversity, cultural heritage, landscape and visual amenity.
- People visiting tourism and recreation sites may contribute to negative effects on biodiversity (e.g., disturbance, trampling, noise etc.).
- Recreational development supported by the plan may have positive impacts on the tourism and recreation sector.

4.14 Climate Change

4.14.1 Background

The Climate Action and Low Carbon Development (Amendment) Act 2021 (as amended) was established to provide for the approval of plans by the Government in relation to climate change.

This aims at pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050. Ireland's Climate Action Plan 2024 sets out Ireland's National targets in this regard. The Climate Action Plans are renewed every year, and the current 2025 Climate Action Plan has been published. Under these action plans, there are targets set for the forestry sector to reduce its emissions such as:

- Delivery of the Ireland's Forest Strategy (2023-2030) and Forestry Programme 2023-2027, which includes a range of forest creation measures, including native woodland expansion and planting of small native trees areas.
- Undertake a midterm review of the Forestry Programme 2023-2027.
- Supporting Coillte's Strategic Vision which aims to capture additional CO₂ in its forests, soils and wood products by 2050.
- Prepare a Land-Use Strategic Implementation Plan to deliver the Coillte Forest Estate Strategic Land-Use Plan.
- Continuing to manage the Coillte estate to increase carbon storage by managing the age profile of our forests to improve carbon efficiency.
- Expanding proactive silvicultural management of our broadleaf estate, and redesigning peatland forests to improve the carbon balance.



- Continuing to support sustainable forest management (SFM) interventions across the entire forestry sector, through the Forestry Programme 2023-2027 and the Coillte Strategic Vision.
- Continued increased use of harvested wood products in the built environment by working to address barriers in construction.
- Continuing to support sustainable production of wood biomass for energy contributing to the reduction of fossil fuels.
- Incentivise increased afforestation to 8,000 ha per annum.
- Continue to manage the Coillte estate to increase carbon storage by managing the forest estate age profile to improve carbon efficiency, expanding proactive silvicultural management of broadleaf estates, and redesigning peatland forests to improve the carbon balance.
- Raise awareness among forest owners of the impact of timing when deciding to harvest their forest.

Coillte also has its own ambition to redesign 30,000 ha of peatland forests by 2050 through rewetting or rewilding to reduce carbon emissions and support carbon sequestration and biodiversity enhancement - in alignment with the Climate Action Plan 2025 and the EU Nature Restoration Law.

The Land Use, Land-Use Change and Forestry (LULUCF) sector in Ireland is the fourth largest national source of GHG emissions. This is unusual internationally, where the sector is commonly a sink, providing net CO₂ removals on an annual basis. This is mainly due to the presence of large areas of degraded peatlands in the county (which are a source of GHG emissions) and the recent lack of afforestation in the county.

This is leading to significant emissions greater than the removals resulting from forestry or other land uses. Additionally, there has been a long-term decline in the area of land afforested annually (Decline from an estimated 17,000 hectares/year in the 1990s to an estimated 1,650 hectares by 2023, well below rates (8,000 ha/year) suggested in the 2024 Climate Action Plan). Increased harvest also plays a role in these emissions due to the increased level of harvesting (1.7 million m³ in 1990 to 4.0 million m³ annually in recent years), which is set to increase as the forest estate matures. In 2023 Teagasc released its third rendition of the Marginal Abatement Cost Curve (MACC) for the LULUCF sector. It identifies the most cost-effective pathway to reduce greenhouse gas (GHG) emissions and enhance carbon sequestration in the Agricultural, Land-Use, Land-Use Change and Forestry sectors plus (Bio) energy. This report aims to assist in providing a pathway to Ireland's Climate targets set out under CAP25.

The generation of renewable energy has been increasing over the past ten years, with a growth in the number of wind farms. Wind energy generation in Ireland has increased from 4,542 GWh in 2013 to 11,589 GWh in 2023. The Government's Climate Action Plan includes a targeted 51% reduction in overall greenhouse gas emissions by 2030; setting Ireland on a path to reach net-zero emissions by no later than 2050. In an effort to maximise Ireland's renewable energy potential and accelerate its transformation to a low carbon energy economy, Coillte and ESB joined forces in 2021 to launch FuturEnergy Ireland. This joint venture company will help increase Ireland's renewable energy infrastructure, contributing to a more sustainable future.



4.14.2 Future Trends (Evolution of the Baseline)

Future changes in climate and associated impacts on sea level, rainfall patterns/intensity and river flow will influence flooding frequency and extent in the future. Local Authorities in compliance with the Regional Spatial & Economic Strategies are attempting to adopt sustainable flood risk strategies in areas likely to be at risk of flooding in the future in the context of climate change and changing weather patterns. Changes to climate could lead to an increase in flooding events in Ireland. The OPW has undertaken a number of Flood Risk Management Studies for different River Basin Districts (RBDs) in Ireland. These studies have identified the areas which are most at risk and management measures have been adopted by the OPW. In some cases, management measures will involve the construction of physical flood defences. These flood risk management-related trends will influence the climate baseline going forward.

It is also foreseen that climate change will present a variety of other hazards to society into the future, including:

- Changes in temperature and precipitation patterns/phenological changes.
- Increases in frequency of heatwave events/extreme heat and drought conditions.
- Extreme Cold.
- Extreme precipitation.
- Coastal erosion.
- Extreme winds.
- Increased dispersal and survival of pests and diseases as a result of changing climate conditions.

The climate baseline going forward will be strongly influence by climate mitigaition and adaptation measures defined in climate/energy related legislation the national Climate Action Plan, Local Authority Climate Action Plans and Sectoral Adaptation Plans developed under the National Adaptation Framework. GHG emissions in Ireland are trending downwards and this is foreseen to continue. It is envisaged greater degree of climate resilience will be embedded into sectors going forward.

4.14.3 Key Considerations Relating to the Draft LUSIP

SEA processes can be utilised to maximise positive climate effects and co-benefits associated with the Plan.

- The Plan will contribute to the targets set out in the Climate Action Plan 2025.
- Climate change related risks should be considered when estate planning (e.g., flooding, extreme weather (e.g., storms, extreme wind, drought), wildfire, invasive species spread etc.).
- Opportunities to promote green/net zero buildings/development.
- Opportunities to promote carbon sequestration and enhanced land use.
- The production of wood indigenously can support and underpin low-carbon construction and the circular bio-economy.
- Greenhouse gas fluxes associated with peatland forest restoration projects



4.15 Transboundary Baseline and Issues

The SEA consider potential transboundary effects in Northern Ireland. The environmental issues for Northern Ireland are similar to those outlined under each environmental component in the previous sections. Northern Irish baseline environment data has been presented in maps in preceding sections wherever such relevant/similar data is available. An overview of the key baseline environmental characteristics relevant to Northern Ireland is presented in Table 4-9.

Table 4-9: Key Baseline Environmental Characteristics Relevant to Northern Ireland

SEA Topic	Key Findings
Population, Human Health and the Economy	The latest figures from Northern Ireland Statistics and Research Agency (NISRA) show that at the time of the 2021 Census, the population was 1.9 million. An increase of 5% since the 2011 Census, with further growth projected to increase to 2.003 million by 2046. In the 2022/23 Health survey 72% people rated their general health as very good or good, 18% said it was fair, and 10% said it was bad/very bad. 20% of people were found to have potential mental health problems. At present the Northern Irish economic activity has recovered from reduced output due to the covid pandemic and is performing well, experiencing growth levels not seen since 2007. Unemployment levels are currently 1.8% (February-April 2025) and are lower than the levels seen during the Covid pandemic and 2007/8 recession.
Biodiversity, Flora and Fauna	The State of Nature 2023 report⁸⁹ for Northern Ireland shows that NI is now one of the most nature-depleted countries in the world with 12% of species assessed, threatened with extinction. The main cause of this decline has been attributed to land management for agriculture and the ongoing effects of climate change, as well as marine development and unsustainable fishing for marine and coastal biodiversity. Key results to come from the report were as follows: • The abundance of 17 farmland bird species has on average fallen by 43% across Northern Ireland since 1996. Across all 64 breeding birds assessed, species' abundance had declined on average by 10%. • Since 1970, the distributions of 576 species of bryophytes (mosses and liverworts) have declined on average by 54% and the distributions of 891 species of flowering plants by 14%. • There was an average 24% increase in the distributions of invertebrate species. Seventy per cent of species in this assessment were moths. The distributions of 552 invertebrate species in Northern Ireland showed contrasting recent trends, the distributions of 162 species (29%) declined and the distributions of 223 species (40%) increased. • The indicator of average species' abundance in Northern Ireland of 36 wintering waterbird species has fallen by 30% since 1988. • Of 2,508 species in Northern Ireland that have been assessed using IUCN Regional Red List criteria, 12% have been classified as threatened with extinction from Ireland as a whole.

⁸⁹ State of Nature Partnership (2023) State of Nature Northern Ireland, available: [TP26055-SoN-N_Ireland-summary-report-v4-1.pdf.pagespeed.ce.aZ-viXI6Dd.pdf](https://tp26055-soN-N_Ireland-summary-report-v4-1.pdf.pagespeed.ce.aZ-viXI6Dd.pdf)



SEA Topic	Key Findings
	A variety of internationally and nationally designated sites have been considered in the SEA, including: • Special Protection Areas (SPA) – 16 • Special Areas of Conservation (SAC) – 58 • Ramsar Sites - 20 • Nature Reserves – 48 • Marine Conservation Zones (MCZ)– 5 • Areas of Special Scientific Interest (ASSI) - 394 • Sites of Local Nature Conservation Importance (SLNCIs) – over 100 • Areas of Outstanding Natural Beauty – 9 • World Heritage Site – 1 (Giant’s Causeway) Within Northern Ireland MCZs, SPAs, SACs, ASSI, and Ramsar sites are considered 'Nature Conservation Designation' areas. These Protected sites have been designated based on specific qualifying features of interest, which include many types of habitats, species and earth science features. The most up-to-date features highlight that 54% of all protected features, both terrestrial and marine, are in favourable condition, 38% are in unfavourable condition, 2% are unfavourable-recovering and less than 1% are destroyed. A total of 4% of features have not had a formal condition assessment therefore a condition cannot be determined for these features. When these protected sites are investigated according to their special qualifying features of interest, it is found that 35% of habitats and 58% of species features are in favourable condition, compared to 93% of Earth science features in favourable condition. This reflects the relative stability of geological features compared to the increasing pressures on the natural environment, contributing to the comparatively lower percentages for habitats and species features.⁹⁰ There are several protected features within The Republic of Ireland which have transboundary connections to Northern Ireland with regards to overlapping geographical connections.
Landscape, Seascape and Visual Amenity	The landscape environment and trends are similar in Ireland and Northern Ireland and therefore the same key issues should be considered. Within Northern Ireland important seascapes (an area of sea, coastline and land, as perceived by people, whose character results from the actions and interactions of land with sea, by natural and/or human factors.) are divided into Seascape Character Areas (A unique geographic area of land, intertidal and marine area with a recognisable sense of place and identity). There are 24 different Regional Seascape Character Areas within the coast of Northern Ireland. All Seascape Character areas within The Plan Zone of Influence (or those which are hydrologically connected) are considered for potential transboundary impacts.

⁹⁰ NISRA (2025) Northern Ireland Environmental Statistics Report, available: [NI Environmental Statistics Report 2025](#)



SEA Topic	Key Findings
Cultural Heritage - Archaeological and Architectural	Cultural Heritage designations of Northern Ireland are considered in the SEA, including. • Sites and Monuments – over 18,000 • Monuments in State Care – 187 • Scheduled Historic Monuments – over 2,000 • Historic Buildings – approximately 9,000 • Listed Buildings – over 8,900 • Industrial heritage record - approximately 16,000 • Areas of Significant Archaeological Interest – 11 • Areas of Archaeological Potential - 132 • Conservation Areas – 58 • Defence Heritage Features – over 4,500 • Battle sites – Over 300 • Historic Parks, Gardens and Demesnes – over 700 • UNESCO World Heritage Sites – 2 (The Giant’s Causeway and Gracehill Moravian Church Settlements, both located in Co. Antrim) The Northern Ireland Department of Communities historic environmental datasets have been important in consideration of potential transboundary impacts on the setting of heritage assets along the border region.⁹¹ There are several features of geological, natural and cultural heritage within Ireland which have transboundary connections to Northern Ireland that have been considered in the SEA, such as UNESCO Geoparks (Cuilcagh Lakelands Geopark, Mourne Gullion Strangford Geopark) and the Royal Sites of Ireland. The most likely potential transboundary impact for cultural heritage in Northern Ireland is the impact on the setting of heritage assets (the surroundings in which the asset is understood, experienced and appreciated) through changes in the physical landscape. Other potential impacts include physical changes to assets which are transboundary in their geographical nature, and environmental effects on heritage landscapes such as on the Register of Historic Parks, Gardens and Demesnes.
Soils and Geology	The Republic of Ireland and Northern Ireland are similar in the geological and soil baseline environments, particularly in the presence of limestone, granite, sandstone and basalt. Numerous Areas of Special Scientific Interest (ASSIs) have been designated for geological and natural heritage and are considered in terms of impacts from the proposed Plan.
Land Use	The Republic of Ireland and Northern Ireland are relatively homogenous in their land cover trends for forestry, peatlands and agriculture, with the latter extending to 75% of the land area in NI. Similar pressures on the forest land cover exist in NI, with urban sprawl and development that overlaps with forested land.

⁹¹ Available at <https://www.communities-ni.gov.uk/services/historic-environment-map-viewer>



SEA Topic	Key Findings
Air Quality and Noise	There are currently 19 Air Quality Management Areas that are leading the activity to tackle air quality problems. There is continued improvement in air quality, but problems do remain for nitrogen dioxide emissions due to transport. Agricultural emissions from ammonia remain high and threaten ecosystems and habitats. Continued effort is required to reduce air pollution from key sources such as road transport and agriculture. For Particulate matter (PM₁₀) in 2024 there was no breach of the UK Strategy Objective or The Air Quality Standards Regulations Limit Values of 40 µg/m³ for the annual mean concentration of PM₁₀. Noise emissions are considered similar to the Republic of Ireland, with similar sources.
Water	There has been a long-standing concern for water quality in Northern Ireland. Diffuse pollution from agriculture is listed as the most significant pressure on water quality in Northern Ireland, particularly the release of the nutrients phosphorus and nitrogen from agricultural sources. One noteworthy example of this issue is the impact diffuse pollution is having on Lough Neagh which is currently affected by recurrent algal blooms. A 2024 report⁹² by the Northern Ireland Audit Office found that the target for 100% of surface water bodies in Northern Ireland to attain 'Good' or 'High' ecological status by 2027 will not be met. In 2024, 29% of river waterbodies, 24% of lake water bodies, and 40% of transitional and coastal waterbodies were classified as good or high ecological status.⁹³ There are numerous waterbodies which cross the Irish border that have the potential to cause transboundary impacts on aquatic environments within Northern Ireland. Cross border catchments in Ireland include: • Lough Neagh and Lower Bann: This catchment includes the area drained by the River Bann and by all streams entering tidal water between the Barmouth and Ballyaghan Point, Co. Derry. This is a cross-border catchment with a surface area of 5,787km², 374km² of which is located within the Republic of Ireland. • River Foyle: The Foyle catchment includes the area drained by the River Foyle and by all streams entering tidal water between Culmore Point, Co. Derry and Coolkeeragh, Co. Derry. This is a cross-border catchment with a surface area of 2,919km², 914km² of which is located within the Republic of Ireland. The eastern half of the catchment, located in Northern Ireland, drains most of County Tyrone and a small part of north western County Derry. The part of the catchment located in Donegal is largely mountainous. • Newry, Fane, Glyde and Dee: This catchment includes the area drained by the Newry, Fane, Glyde and Dee rivers, and by all streams entering tidal water between Murlough Upper and The Haven, Co. Louth. This is a cross-border catchment with a surface area of 2,125 km², 1390 km² of which is located within the Republic of Ireland.

⁹² Northern Ireland Audit Office (2024) *Water Quality in Northern Ireland's Rivers and Lakes*, available: [Water Quality in Northern Ireland's Rivers and Lakes | Northern Ireland Audit Office](#)

⁹³ NIEA (2025) *Water Classification Statistics Report 2024*, available: [NIEA - WMU - ICP - NI Water Classification Statistics Report 2024.pdf](#)



SEA Topic	Key Findings
	The cross-border impacts on these waterbodies should be considered under the SEA. Where a potential transboundary impact for Northern Ireland is identified, the NI River Basin Management Plans will be considered during the SEA process.
Material Assets	While forestry is an important economic and ecological asset to Northern Ireland, tree-cover rates in NI is the lowest in the UK and lower than those in the European Union, at approximately 8%. In comparison, agricultural land-cover extends to nearly 75% of NI's land-bank. However, given that forestry is still significant in the role it plays in tourism and recreation and regulation of the ecosystem, it is expected that the protection afforded to existing forestry will be maintained. The installed capacity of renewable energy in Northern Ireland is currently 1,276 MW (WEI, 2024). The NI Climate Change Act has set a target of 80% renewable energy by 2030, therefore requiring more than double the current renewable electricity generate to meet this demand.
Tourism and Recreation	Tourism Ireland has launched its 2025 marketing plan⁹⁴ with an aim to Increase overseas tourism revenue across the island of Ireland by +5.6%1 growth per year on average over the period 2024 to 2030, growing revenue in NI by an average +6.5% per year over that period. The vision of this plan is to <i>'Increase the value of overseas tourism to the island of Ireland, sustainably supporting economies, communities and the environment by inspiring visitors and strengthening strategic partnerships'</i>. As well as <i>'Foster a world-class team demonstrating integrity, living our values and growing expertise'</i>. There will be a continued focus on tourists with 'value adding tourism traits' i.e., those people who have funds to travel, who prize memorable experiences and tend to travel around regions and across seasons. The Plan has added for 2025 the 'Slow Tourism month', where Tourism Ireland will build on promotional activities to support environmentally friendly itineraries on the island of Ireland. During 'slow tourism month' an overseas marketing initiative will focus advertising, social media and publicity activities on car free itineraries that support greater dwell time in communities and in nature. Any proposals in proximity to Northern Ireland should assessed in terms of the potential to impact or reduce access to tourism and recreation attractions in Northern Ireland.
Climate Change	The UK Climate Change Act commits the UK to reducing emissions by 100% by 2050 from 1990 baseline levels. In 2022, Northern Ireland's total greenhouse gas emissions accounted for 5.3% of the UK total, whilst accounting for 2.8% of the UK's population. Since the base year (1990), Northern Ireland's total greenhouse gas emissions have decreased by 26.4% from 29.0 to 21.3 million tonnes of carbon dioxide equivalent (MtCO₂e). This is less than the reduction seen for the UK as a whole, which saw a decrease of 50.2% compared to the base year. Agriculture plays a significant role in high emissions due to the importance of agriculture in the country's economy. Buildings and product uses followed by domestic transport, and electricity supply are the next biggest emitters.⁹⁵

⁹⁴ Tourism Ireland (2025) *Tourism Ireland Business Plan 2025*, available: [tourism-ireland-business-plan-2025.pdf](#)

⁹⁵ Northern Ireland Statistics and Research Agency (2024) Northern Ireland Greenhouse Gas Emissions 2022, Department of Agriculture, Environment and Rural Affairs, available: [Northern Ireland Greenhouse Gas Emissions 2022](#) [accessed 29 November 2024].



4.16 Summary of Key Considerations relating to the Plan

A summary of the key environmental considerations relating to the Plan is provided in Table 4-10.

Table 4-10: Summary of Key Environmental Considerations relating to the Plan

Environmental Component	Summary of Key Environmental Considerations relating to the Plan
Population and Human Health	- Population and development growth will grow the raw material requirement within Ireland. - Settlement patterns could influence the location and acceptability of different Coillte development projects. - The construction or maintenance of new or existing infrastructure on forest estate lands may cause temporary disruption the local communities, through noise, dust, disruption to services/utilities and traffic etc. - The construction or maintenance of new or existing infrastructure on the forest estate may temporarily impede public access to forests. - Infrastructure development may influence the human environment and land use in Ireland. - Development construction activities may generate air emissions, vibration or noise that may temporarily impact human health and well-being. - A spatially concentrated deterioration in human health, if effects arising from environmental vectors such as water and air are not mitigated. - Recreational and development pressures on habitats and landscapes. - Renewable energy development could influence residential amenity within the zone of influence and may have a visual/noise impact. - The Plan will support the carrying out of commercial forestry and the delivery of wood product to the market. These economic and material assets have the potential to underpin and support economic and infrastructural development, including housing development, resulting in positive effects for people. - Afforestation has the potential to drive carbon sequestration resulting in positive climate impacts and the achievement of Land Use, Land Use Change and Forestry Greenhouse Gas (GHG) emission reduction targets defined under the EU LULUCF Regulation. - Renewable energy development supported by the Plan has the potential to result in positive climate impacts and support the achievement of Greenhouse Gas (GHG) emission reduction targets defined in Climate Action and Low Carbon Development Act 2015, as amended by the Climate Action and Low Carbon Development (Amendment) Act 2021. This climate mitigation has the potential to have positive effects on people through reducing the effects of climate change.
Biodiversity, Flora & Fauna	- The potential effects of forestry activities (e.g. afforestation, reforestation, felling, roading, recreation) on non-designated biodiversity features e.g. important habitats and species outside designated sites - particularly with regard to barriers to movement and displacement. - The potential for effects on designated areas. - The potential to spread invasive species and opportunities to reduce the harmful impact these species have on biodiversity (as set out in outcome 2H of the National Biodiversity Plan 2023-2030).



Environmental Component	Summary of Key Environmental Considerations relating to the Plan
	• Potential impact of forestry management and development on flora species listed under the Flora (Protection) Order, 2022 (S.I. No. 235 of 2022). • Potential impact of renewable energy development supported by the Plan on biodiversity. • Opportunities to promote green infrastructure, ecological connectivity nature-based solutions, and biodiversity net gain through the LUSIP. • Nature conservation and restoration will be an intrinsic component of the Plan. The Plan has the potential to support biodiversity protection and enhancement in alignment with nature legislation and policy (e.g., the Ireland's 4th National Biodiversity Action Plan).
Landscape, Seascape & Visual Amenity	• Effects of landscape changes as a result of the Plan on areas of designated landscape quality and views and prospects. • Impact of the changes occurring as a result of the Plan on general visual amenity in the vicinity of these developments and wider landscape character. • Potential negative impacts on seascapes through changes in the natural, social, cultural, perceptual, and aesthetic characteristics as a result of projects carried out by Coillte.
Cultural Heritage - Archaeological & Architectural	• The potential impact of development (new road networks, recreational facilities) on existing and unknown archaeological sites, architectural heritage sites, and protected structures. • The potential effects of Coillte forestry activities on existing and unknown archaeological sites, architectural heritage sites, and protected structures. • The potential impact of greenfield development on archaeological remains. • The potential impact on the setting of heritage assets (the surroundings in which the asset is understood, experienced and appreciated) through changes in the physical landscape.
Soils & Geology	• Potential impacts to soils/lands vulnerable to erosion, resulting in landslides. • Potential for soil degradation (e.g. organic matter decline, altering pH, salination, increased fertiliser application) and soil sealing/compaction from construction activity in forested areas. • Potential to impacts on audited and unaudited geoheritage sites. • Potential for forestry to contribute to positive effects on soils (e.g., soil stabilisation, control of surface water run-off).
Land Use	• Constraints from pressures such as urban sprawl and agriculture. • Degradation of interacting environmental components (soil and water environments) from construction activity in forest areas. • The requirement to achieve Land Use, Land Use Change and Forestry Greenhouse Gas (GHG) emission reductions under the EU LULUCF Regulation.
Air Quality & Noise	• Estate developments, particularly during the construction phase, may have a temporary negative impact on air quality and create noise pollution. • Renewable energy developments supported by the Plan may have impacts on noise pollution, particularly at sensitive receptors which are in proximity to the development. • Increased timber production and supply will lead to increased leading timber transport, resulting in negative air quality, climate and noise effects. • Increased nitrogen deposition in ecologically sensitive areas from forestry activities could lead to negative environmental effects including eutrophication and biodiversity loss.



Environmental Component	Summary of Key Environmental Considerations relating to the Plan
	Forestry supported by the Plan has the potential to contribute to air quality improvements through the absorption of pollutants (including carbon dioxide) and the release of oxygen through photosynthesis.
Water	- Potential pressures and impacts on water body status from forestry activities and development at the estate (i.e. increased use of fertilisers, potential sedimentation (during afforestation, reforestation and felling in particular) and accidental spillage/run-off). - Changes in hydrology (and reliant aquatic ecology) due to forestry activities and flood risk contributing to an increase in flood risk.
Material Assets	- Economic growth and development of infrastructure will increase the energy requirement within Ireland - particularly in the heat and transport sectors as they are electrified. - Demands for increased renewable infrastructure and associated connection networks. - Increased demand for construction materials (wood) with population growth and housing targets defined in the National Planning Framework and lower-order land use plans. - The Plan will support the carrying out of commercial forestry and the delivery of wood product to the market. Wood product is a valuable material asset that underpins various sectors, including the construction sector.
Tourism & Recreation	- Tourism and recreation development projects supported by the Plan may impact upon sensitive environmental receptors such as biodiversity, cultural heritage, landscape and visual amenity. - People visiting tourism and recreation sites may contribute to negative effects on biodiversity (e.g., disturbance, trampling, noise etc.). - Recreational development supported by the plan may have positive impacts on the tourism and recreation sector.
Climate Change	- The Plan will contribute to the targets set out in the National Climate Action Plan 2025. - Climate change related risks should be considered when estate planning (e.g., flooding, wildfire, invasive species spread etc.) - Opportunities to promote green/net zero buildings/development. - Opportunities to promote carbon sequestration and enhanced land use. - The production of wood indigenously can support and underpin low-carbon construction and the circular bio-economy. - Greenhouse gas fluxes associated with peatland forest restoration projects



5. STRATEGIC ENVIRONMENTAL OBJECTIVES

The SEA Directive states that an SEA should also look at *'the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.'* The identification of environmental protection objectives relevant to a plan provide the basis for evaluating the significance of impacts during the SEA process. All environmental protection objectives relevant to the Plan were identified. Further information on other plans and programmes that define inter-related environmental protection objectives relevant to the Plan is provided in Appendix 1 to this document.

Strategic Environmental Objectives (SEOs) are methodological measures which facilitate the development of targets against which the environmental effects of the Plan can be tested. SEOs are based on wider environmental protection objectives on local, regional, national, European and international level that are relevant to Coillte's Plan. They are high-level in nature and set strategic goals for improvement.

In this section, SEOs have been defined for the range of Environmental Components considered under this SEA. These SEOs can be used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which potential significant adverse impacts may occur. The use of these objectives ensured that the SEA focused only on those environmental issues that are most relevant and significant to the Plan and the Study Area.

The development of SEOs was appropriately informed by the SEA Scoping stage of the SEA process, including consultation with the statutory Environmental Authorities.

All SEOs defined for the Plan are presented in Table 5-1.

Table 5-1: Strategic Environmental Objectives

Environmental Component	SEO Code	Strategic Environmental Objective
Overall	O1	Ensure, where appropriate, that lower-level plans and projects contribute to overall environmental monitoring processes within the LUSIP.
Population, Human Health & the Economy	PHH1	Minimize impacts from development and operations on population and human health.
	PHH2	Minimize impacts from development and operations on economic activity and growth.
	PHH3	Engage with local communities and provide areas for amenity and recreational uses to promote wellbeing and human health.
	PHH4	Contribute positively to the well-being of workers and local populations.
	PHH5	Promote economic growth within the forestry sector and contribute to job creation and business development in rural areas.
	PHH6	Provide sustainable, high-quality timber products to the Irish market to meet demand and in support of housing development.



Environmental Component	SEO Code	Strategic Environmental Objective
Biodiversity, Flora & Fauna	B1	Ensure compliance with Habitats and Birds Directives, with regard to protection of European Sites and Annexed habitats and species ⁹⁶ as well as corresponding Northern Irish legislation.
	B2	Support Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species.
	B3	To avoid significant adverse impacts on semi-natural habitats, species, environmental features or other sustaining resources in designated national sites, non-designated locally important sites, and sites proposed for designation; in compliance with wildlife and invasive species legislation.
	B4	Go beyond biodiversity protection to deliver biodiversity enhancement and forest management for nature - in response to the biodiversity emergency and in line with the National Biodiversity Plan and its targets.
	B5	Manage old and ancient woodlands to enhance their biodiversity value.
Landscape, Seascape & Visual Amenity	L1	Contribute to the conservation, protection, enhancement and management of the character and quality of Ireland's distinctive landscape and seascape.
	L2	Minimise development impacts on sensitive and/or important landscapes/seascapes, including those designated under the land use planning framework.
	L3	Minimise adverse visual effects, including effects on sensitive visual receptors and views and prospects designated under the land use planning framework.
Cultural Heritage	CH1	Protect and conserve archaeological heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Monuments and Places (RMP), the prospective Register of Monuments and the Northern Ireland Sites and Monuments Record (NISMR).
	CH2	Protect and conserve architectural heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Protected Structures (RPS) and National Inventory of Architectural Heritage (NIAH), industrial heritage, Architectural Conservation Areas (ACAs) and features/conservation areas designated in Northern Ireland.

⁹⁶ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.



Environmental Component	SEO Code	Strategic Environmental Objective
	CH3	Promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical archaeological or architectural heritage where they arise.
Geology and Soils	GS1	Minimise adverse effects on soil functions and deliver soil enhancement.
	GS2	Minimise adverse effects on the physico-chemical properties of soil.
	GS3	Increase uptake of sustainable soil management practices that contribute to the preservation of soil and peatlands, aiding in achieving good soil quality and stability.
Land use	LU1	Minimize effects on other land use activities/objectives and promote sustainable land use.
Air Quality and Noise	AQN1	Minimize effects on local air quality.
	AQN2	Minimise adverse noise impacts on sensitive receptors.
Water	W1	Maintain and/or improve, the quality and status of surface water bodies, in line with Water Framework Directive requirements.
	W2	Maintain and/or improve, the chemical and quantitative status of groundwaters, in line with Water Framework Directive requirements.
	W3	Comply as appropriate with the provisions of the Flood Risk Management Guidelines.
	W4	Promote sustainable drainage practices to improve water quality and flow.
	W5	Prevent impacts upon drinking water quality.
	W6	Prevent impacts upon the status of transitional, coastal and marine waters in line with the requirements of the WFD, the MSFD and Northern Ireland's Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.
	W7	Maintain and/or improve bathing water quality.
Material Assets & Infrastructure	MA1	Minimise effects on or conflicts with local, regional and national material assets and infrastructure, including future, planned infrastructure.
	MA2	Promote sustainable travel and transport.
	MA3	Promote the effective and sustainable use of forest products.
	MA4	Enable the delivery of renewable energy projects for the benefit of national energy demands - through its joint venture FuturEnergy Ireland and via land agreements with other renewable energy developers.
	MA5	Promote sustainable waste/material management and the circular economy.
Tourism & Recreation	TR1	Avoid or minimise adverse effects upon tourism and recreation amenities, and enhance tourism and recreation, where possible.



Environmental Component	SEO Code	Strategic Environmental Objective
Climate Change	CC1	Contribute towards the reduction of greenhouse gas emissions and the delivery of renewable energy projects in line with national objectives and targets.
	CC2	Promote carbon sequestration in line with national objectives and targets.
	CC3	Reduce greenhouse gas emissions from forestry related transport operations.
	CC4	Integrate sustainable and low/zero carbon design solutions into Coillte development projects, where possible.
	CC5	Contribute to sectoral adaptation to the effects of climate change.
	CC7	Consider and appropriately manage the effects of climate change during development and forest planning processes.



6. DESCRIPTION AND EVALUATION OF PLAN ALTERNATIVES

6.1 Introduction

Article 5(1) of the SEA Directive states that: *'Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely, significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.'*

The SEA Directive requires that reasonable alternative means of achieving the strategic goals of the Plan (considering the ambitions, strategic objectives and the geographical scope of the Plan) are identified, described and evaluated for their likely, significant effects on the environment. Such reasonable alternatives must be realistic and capable of implementation.

Reasonable alternatives to the Plan were initially explored and examined during the SEA Scoping stage of the SEA process, having regard to the scope, function and strategic aims and main objectives of the Plan. This process facilitated the accurate identification of reasonable alternatives to the Plan and also suitably informed the plan-development process, ensuring optimal environmental outcomes.

Reasonable alternatives considered were assessed against the Strategic Environmental Objectives (SEOs) established for the aspects of the baseline environment which are likely to be significantly affected by the Plan. The purpose of this was to determine if the reasonable alternative resulted in positive, negative, neutral or uncertain environmental outcomes. Preferred reasonable alternatives were then identified having regard to environmental considerations.

The reasonable alternative identification and assessment process has been clearly described and documented. A description of how the assessment of alternatives was carried out is provided. The description and evaluation of reasonable alternatives in this report was undertaken in accordance with guidelines defined in the following two guidance documents primarily:

1. Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment, DEHLG 2004.
2. Developing and Assessing Alternatives in Strategic Environmental Assessment, EPA 2015.

6.2 Goal of the Reasonable Alternative Evaluation Process in SEA

The underpinning goal of the reasonable alternative evaluation process is to ensure that the selection of preferred alternatives by Coillte is informed by environmental considerations, including:

- Which alternative best promotes and facilitates proper planning and sustainable development.
- Which alternative best supports the Ambitions and Strategic Objectives of the Plan.
- Which alternative best supports the Strategic Environmental Objectives defined for the Plan.
- Which alternative best supports the objectives of inter-related plans and policy, including their environmental protection objectives.
- The potential positive environmental effects associated with the alternative.
- The potential negative environmental effects associated with the alternative.



6.3 Approach to Developing Reasonable Alternatives

A range of alternatives to the Plan were considered during the Plan-development process. The approach for identifying reasonable alternatives to the Plan is defined below:

1. Iterative communication was held between the Plan-making and environmental assessment teams to identify the various alternative approaches and options being considered to achieve the Strategic Aim and Objectives of the Plan.
2. Reasonable alternatives considered were identified. For an alternative to be considered reasonable, it must be practical/functional, realistic and implementable. An evaluation of whether each alternative was practical/functional, reasonable and implementable took place. This evaluation considered the following factors:
 - The ambitions and strategic objectives of the Plan.
 - The geographic scope of the Plan.
 - The actual powers and functions of Coillte.
 - The genuine ability of the alternative to achieve the Plan ambitions and strategic objectives.
 - The technical feasibility of the alternative.
 - The availability of resources, including financial resources to deliver the Plan within the required timeframe.
 - The policy hierarchy and the parameters placed around the Plan by higher-level policy.
 - The legislative context and the parameters placed around the Plan by climate action and environmental related legislation.

The toolkit contained in the EPA's guidelines entitled '*Developing and Assessing Alternatives in Strategic Environmental Assessment Good Practice Guidance*' (2015) was utilised when identifying reasonable alternatives. The 'Why? What? Where? When?' Model defined in the guidelines were used when framing reasonable alternatives, as shown in Figure 6-1.

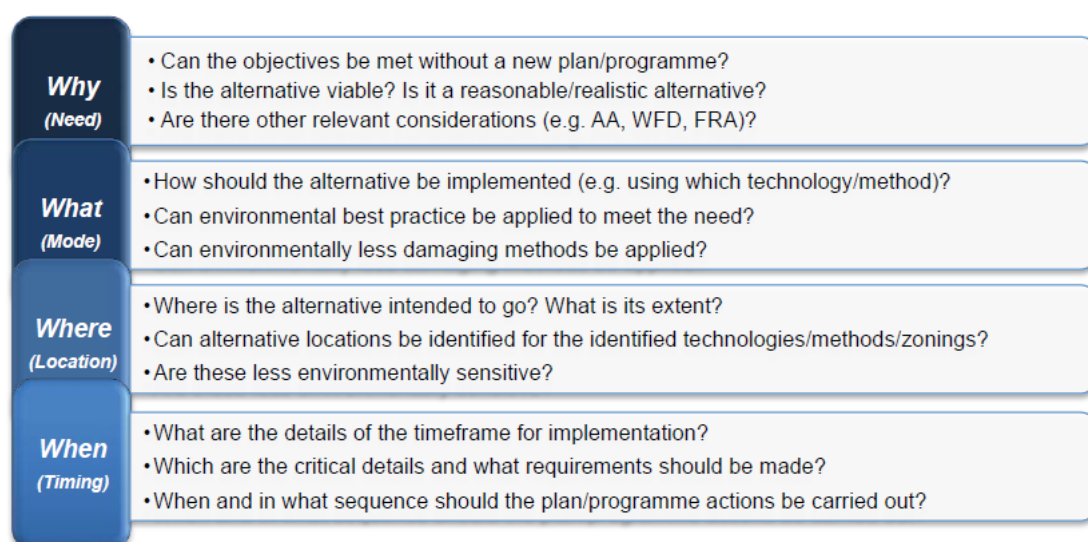


Figure 6-1: 'Why? What? Where? When?' Model for framing alternatives - Adapted from Figure 4.3 Developing and Assessing Alternatives in the Strategic Environmental Assessment Process (EPA, 2015).



6.4 Limitations in Assessing Reasonable Alternatives

The range of Reasonable Alternatives open to the Plan-making team is limited by the need to ensure compliance with relevant legislation and alignment with higher order ambitions and strategic objectives defined in the FESLUP.

6.5 Identification and Description of Reasonable Alternatives

Reasonable alternatives to the Plan were identified as the Plan-making process evolved. Details on all Reasonable Alternatives considered during Plan-making are presented in Table 6-1.



Table 6-1: Reasonable Alternatives considered during Plan-making

Theme	Description of Reasonable Alternatives
Scale of the Plan.	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan.
	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units.
Plan Duration.	Alternative 1: Implement the Plan over the duration of the Forest Estate Strategic Land Use Plan (2023 - 2050).
	Alternative 2: Implement the Plan over a 10 year timeframe.
Focus of Plan Actions.	Alternative 1: Development of operationally focused Plan actions.
	Alternative 2: Development of strategically focused Plan actions.
Measuring and Reporting of Plan Actions.	Alternative 1: Measuring/reporting at national level.
	Alternative 2: Measuring/reporting at Business Area Unit level.
	Alternative 3: Measuring/reporting at both national and Business Area Unit level.



6.6 Evaluation of Reasonable Alternatives

An evaluation of the potential effects of the reasonable alternatives on the baseline environment was carried out in accordance with the SEA Directive and best practice guidelines. A standardised evaluation matrix was developed to facilitate the evaluation of the environmental effects of reasonable alternatives on SEOs relating to each Environmental Component.

Potential effects of the reasonable alternatives were categorised as follows in the matrix:

- Potential Positive Environmental Impact (indicated in the matrix by a '+').⁹⁷
- Potential Negative Environmental Impact (indicated in the matrix by a '-').⁹⁸
- Potential Positive and Negative Environmental Impacts (indicated in the matrix by a '+/-').
- Uncertain Environmental Impact (indicated in the matrix by a '?').
- Neutral, No or Insignificant Environmental Impact (indicated in the matrix by a '0').
- Where positive effects are more likely or of a greater magnitude for a particular alternative, these effects are indicated in the matrix by a '++').

The evaluation of all Reasonable Alternatives considered during the Plan-making process is presented Tables 6-2 to 6-5. Reasons for selecting Preferred Alternatives are presented.

⁹⁷ Potential Positive Environmental Impacts are defined as having the potential to support the achievement of an SEO.

⁹⁸ Potential Negative Environmental Impacts are defined as having the potential to hinder the achievement of an SEO.



Table 6-2: Scale of the Plan

Environmental Component	SEO Code	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units
Overall	O1	+	0
Population & Human Health	PHH1	++/-	+/-
	PHH2	++/-	+/-
	PHH3	++	+
	PHH4	++	+
	PHH5	++	+
	PHH6	++	+
Biodiversity, Flora & Fauna	B1	++/-	+/-
	B2	++/-	+/-
	B3	++/-	+/-
	B4	++/-	+/-
	B5	++/-	+/-
Landscape & Visual Amenity	L1	++/-	+/-
	L2	++/-	+/-
	L3	++/-	+/-
Cultural Heritage - Archaeology & Architectural	CH1	++/-	+/-
	CH2	++/-	+/-
	CH3	++	+
Geology and Soils	GS1	++/-	+/-
	GS2	++/-	+/-



Environmental Component	SEO Code	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units
	GS3	++/-	+/-
Land Use	LU1	++/-	+/-
Air Quality and Noise	AQN1	++/-	+/-
	AQN2	++/-	+/-
Water	W1	++/-	+/-
	W2	++/-	+/-
	W3	++	+
	W4	++/-	+/-
	W5	++/-	+/-
	W6	++/-	+/-
	W7	++/-	+/-
Material Assets	MAI1	++/-	+/-
	MAI2	++/-	+/-
	MAI3	++	+
	MAI4	++/-	+/-
	MAI5	++/-	+/-
Tourism & Recreation	TR1	++/-	+/-
Climate Change	CC1	++/-	+/-
	CC2	++	+
	CC3	++	+
	CC4	++/-	+/-



Environmental Component	SEO Code	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units
	CC5	++/-	+/-
	CC6	++/-	+/-
	CC7	++/-	+/-

Preferred Alternative

Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan.

Reasons for Selecting the Preferred Alternative

Initially, Coillte considered having the LUSIP be geographically scaled to BAU level and for it to replace Coillte's existing Forest Management Plans (FMPs). Coillte's FMPs are developed for each BAU and set out plans for forestry and other activities across the BAUs over 5 years period. They are designed to support Coillte meeting certification requirements for sustainable forestry. Having the LUSIP geographically scaled to BAU level and replace FMPs would create efficiency in land use planning processes.

Actions defined in a LUSIP scaled to BAU level would be specific, detailed and operational in nature and would serve to guide activities and development on a granular level, supporting positive environmental outcomes. It was considered, however, this approach negatively impacts the scope to strategically plan, guide and implement forestry and non-forestry activities nationally and across all BAUs. Conducting SEA of a BAU level LUSIP would also be more akin to carrying out project-level environmental assessment, given the level of specific operational-level detail that would be contained in such a Plan. This would conflict with the goal of SEA to ensure environmental considerations are integrated into land use planning processes at an early stage of decision-making to guide lower-order actions.

It was therefore concluded that developing a nationally scaled LUSIP is a preferred option, compared to developing a LUSIP that is scaled to BAU level, for the following reasons:

- Development of a nationally scaled LUSIP that informs lower-order operational-level forestry planning would allow for better strategic planning and the integration of environmental considerations into land use planning processes at an early and more appropriate stage of decision-making. This has the potential to result in better environmental outcomes across multiple environmental components.
- It would give Coillte greater flexibility and control in relation to strategic-level planning and environmental considerations. Coillte would be in a better position to respond to environmental trends and issues that may rise during Plan implementation and develop remedial action at an appropriate scale.
- It would allow for better consideration of interactions and cumulative effects of Coillte strategic actions during the SEA of the Plan.
- It would allow for integration of environmental considerations and mitigation at an earlier and higher-level stage of Coillte's land use planning process. This framework of higher-order environmental mitigation measures will serve to suitably and effectively guide lower-order forest plans and operations.



Environmental Component	SEO Code	Alternative 1: Developing a nationally scaled Land Use Strategic Implementation Plan	Alternative 2: Developing a Land Use Strategic Implementation which is geographically scaled to Business Area Units
- Development of a BAU level LUSIP would require the Plan to define Actions and report on environmental metrics at forest-level, in order to meet Certification requirements. SEA of a BAU level Plan would likely be unwieldy and lack appropriate focus, reducing its effectiveness. - A single, nationally scaled LUSIP maintains a clear strategic perspective, and provides a coherent framework within which individual BAUs can interpret and implement actions in line with local context while still aligning with national priorities.			



Table 6-3: Plan Duration

Environmental Component	SEO Code	Alternative 1: Implement the Plan over the duration of the Forest Estate Strategic Land Use Plan (2023 - 2050)	Alternative 2: Implement the Plan over a 10 year timeframe.
Overall	O1	+	0
Population & Human Health	PHH1	++/-	+/-
	PHH2	++/-	+/-
	PHH3	++	+
	PHH4	++	+
	PHH5	++	+
	PHH6	++	+
Biodiversity, Flora & Fauna	B1	++/-	+/-
	B2	++/-	+/-
	B3	++/-	+/-
	B4	++/-	+/-
	B5	++/-	+/-
Landscape & Visual Amenity	L1	++/-	+/-
	L2	++/-	+/-
	L3	++/-	+/-
Cultural Heritage - Archaeology & Architectural	CH1	++/-	+/-
	CH2	++/-	+/-
	CH3	++	+
Geology and Soils	GS1	++/-	+/-
	GS2	++/-	+/-



Environmental Component	SEO Code	Alternative 1: Implement the Plan over the duration of the Forest Estate Strategic Land Use Plan (2023 - 2050)	Alternative 2: Implement the Plan over a 10 year timeframe.
	GS3	++/-	+/-
Land Use	LU1	++/-	+/-
Air Quality and Noise	AQN1	++/-	+/-
	AQN2	++/-	+/-
Water	W1	++/-	+/-
	W2	++/-	+/-
	W3	++	+
	W4	++/-	+/-
	W5	++/-	+/-
	W6	++/-	+/-
	W7	++/-	+/-
Material Assets	MAI1	++/-	+/-
	MAI2	++/-	+/-
	MAI3	++	+
	MAI4	++/-	+/-
	MAI5	++/-	+/-
Tourism & Recreation	TR1	++/-	+/-
Climate Change	CC1	++/-	+/-
	CC2	++	+
	CC3	++	+
	CC4	++/-	+/-



Environmental Component	SEO Code	Alternative 1: Implement the Plan over the duration of the Forest Estate Strategic Land Use Plan (2023 - 2050)	Alternative 2: Implement the Plan over a 10 year timeframe.
	CC5	++/-	+/-
	CC6	++/-	+/-
	CC7	++/-	+/-

Preferred Alternative

Alternative 2: Implement the Plan over a 10 year timeframe.

Reasons for Selecting the Preferred Alternative

Coillte considered having the LUSIP timeframe run from 2023 - 2050, in line with the timeframe of the higher-order FESLUP. This option would have ensured alignment between FESLUP and LUSIP ambitions, strategic objectives and actions. It was decided that the Plan would run for a 10 year time period, from 2026 to 2035, however. This was for the following reasons:

Adopting a 10 year Plan duration would allow Coillte to define more specific, measurable, achievable, realistic and targeted Actions which would sit under and support higher-order ambitions and strategic objectives. This level of Plan focus was considered optimal in the context of the FESLUP and lower-order forest planning processes at Coillte.

- The effectiveness of these Actions and their associated environmental effects would be easier to measure/monitor during Plan implementation.
- More accurate and effective monitoring of the effects of the Plan would allow Coillte to adapt better in response to environmental trends and issues related to the implementation of the Plan.
- A 10-year timeframe is a reasonable period to implement and monitor complex forest and land use initiatives, while still allowing for flexibility in land use planning processes.
- It was considered that a having a 10 year plan with more focused Actions sitting under the ambitions and strategic objectives of the FESLUP, but above operational-level forestry plans, would lead to the most optimal environmental outcomes, and is more likely to facilitate the achievement of Coillte's environmental goals, in line with wider environmental protection objectives. This level of focus was considered to be optimum for translating and driving Coillte's strategic vision at operational/project level.
- This level of focus was considered ideal for providing a coherent, effective, targeted and applicable framework of environmental mitigation to guide lower-order planning processes and projects.
- It was considered that this approach is more likely to result in and maximise positive environmental effects on environmental components due to Plan implementation. It is more likely to avoid, prevent and minimise the occurrence of negative environmental effects.



Table 6-4: Focus of Plan Actions

Environmental Component	SEO Code	Alternative 1: Development of operationally focused Plan actions	Alternative 2: Development of strategically focused Plan actions
Overall	O1	+	+
Population & Human Health	PHH1	+/-	++/-
	PHH2	+/-	++/-
	PHH3	++	++
	PHH4	++	++
	PHH5	++	++
	PHH6	++	++
Biodiversity, Flora & Fauna	B1	+/-	++/-
	B2	+/-	++/-
	B3	+/-	++/-
	B4	+/-	++/-
	B5	+/-	++/-
Landscape & Visual Amenity	L1	+/-	++/-
	L2	+/-	++/-
	L3	+/-	++/-
Cultural Heritage - Archaeology & Architectural	CH1	+/-	++/-
	CH2	+/-	++/-
	CH3	+	++
Geology and Soils	GS1	+/-	++/-
	GS2	+/-	++/-
	GS3	+/-	++/-



Environmental Component	SEO Code	Alternative 1: Development of operationally focused Plan actions	Alternative 2: Development of strategically focused Plan actions
Land Use	LU1	+/-	++/-
Air Quality and Noise	AQN1	+/-	++/-
	AQN2	+/-	++/-
Water	W1	+/-	++/-
	W2	+/-	++/-
	W3	+	++
	W4	+/-	++/-
	W5	+/-	++/-
	W6	+/-	++/-
	W7	+/-	++/-
Material Assets	MAI1	++/-	++/-
	MAI2	++/-	++/-
	MAI3	++	++
	MAI4	++/-	++/-
	MAI5	++/-	++/-
Tourism & Recreation	TR1	++/-	++/-
Climate Change	CC1	+/-	++/-
	CC2	+	++
	CC3	+	++
	CC4	+/-	++/-
	CC5	+/-	++/-
	CC6	+/-	++/-



Environmental Component	SEO Code	Alternative 1: Development of operationally focused Plan actions	Alternative 2: Development of strategically focused Plan actions
	CC7	+/-	++/-
Preferred Alternative Alternative 2: Development of strategically focused Plan actions. Reasons for Selecting the Preferred Alternative In the early stage of the development of the LUSIP, Coillte identified over 200 actions. Multiple actions were identified for each strategic objectives defined in the FESLUP. It was considered these range of actions were overly specific, and the level of detail provided did not align with the strategic purpose of the LUSIP to bridge the gap between high-level policy and local implementation. A thorough cross-organisation review of the Actions was undertaken, and the Actions were consolidated and made more strategic in focus. The actions were also grouped under the 4 strategic pillars defined under the FESLUP. This allowed the Plan to maintain a clear, outcome-focused structure while remaining flexible enough for BAUs to interpret and implement actions in ways that suit their local context. The more operational or overly specific actions were therefore not included, as they would have shifted the Plan away from its intended strategic function. The main environmental reasons for selecting this preferred alternative are set out below: • Defining strategically focused Plan Actions would better support effective Plan implementation and be more likely to lead to the realization of strategic objectives, including objectives relating to climate mitigation, nature restoration and environmental protection. • This approach would better facilitate the translation of the ambitions and strategic objectives of the FESLUP to operational forest planning processes, which has the potential to result in better environmental outcomes. • It was identified early on that consolidating Plan Actions and making the Plan more succinct and appropriately focussed would better facilitate the carrying out of more appropriately focused, accurate and clear SEA and AA, and better facilitate the integration of environmental considerations into the Plan. • Making Plan Actions more strategically focussed than operationally focussed would allow for earlier consideration of environmental impacts in decision-making processes, in line with the principles of SEA.			



Table 6-5: Measuring and Reporting of Plan Actions

Environmental Component	SEO Code	Alternative 1: Measuring/reporting at national level	Alternative 2: Measuring/reporting at Business Area Unit level	Alternative 3: Measuring/reporting at both national and Business Area Unit level
Overall	O1	+	+	+
Population & Human Health	PHH1	+/-	+/-	++/-
	PHH2	+/-	+/-	++/-
	PHH3	++	++	++
	PHH4	++	++	++
	PHH5	++	++	++
	PHH6	++	++	++
Biodiversity, Flora & Fauna	B1	+/-	+/-	++/-
	B2	+/-	+/-	++/-
	B3	+/-	+/-	++/-
	B4	+/-	+/-	++/-
	B5	+/-	+/-	++/-
Landscape & Visual Amenity	L1	+/-	+/-	++/-
	L2	+/-	+/-	++/-
	L3	+/-	+/-	++/-
Cultural Heritage - Archaeology & Architectural	CH1	+/-	+/-	++/-
	CH2	+/-	+/-	++/-
	CH3	+	+	++
Geology and Soils	GS1	+/-	+/-	++/-
	GS2	+/-	+/-	++/-



Environmental Component	SEO Code	Alternative 1: Measuring/reporting at national level	Alternative 2: Measuring/reporting at Business Area Unit level	Alternative 3: Measuring/reporting at both national and Business Area Unit level
	GS3	+/-	+/-	++/-
Land Use	LU1	+/-	+/-	++/-
Air Quality and Noise	AQN1	+/-	+/-	++/-
	AQN2	+/-	+/-	++/-
Water	W1	+/-	+/-	++/-
	W2	+/-	+/-	++/-
	W3	+	+	++
	W4	+/-	+/-	++/-
	W5	+/-	+/-	++/-
	W6	+/-	+/-	++/-
	W7	+/-	+/-	++/-
Material Assets	MAI1	++/-	++/-	++/-
	MAI2	++/-	++/-	++/-
	MAI3	++	++	++
	MAI4	++/-	++/-	++/-
	MAI5	++/-	++/-	++/-
Tourism & Recreation	TR1	++/-	++/-	++/-
Climate Change	CC1	+/-	+/-	++/-
	CC2	+	+	++
	CC3	+	+	++
	CC4	+/-	+/-	++/-



Environmental Component	SEO Code	Alternative 1: Measuring/reporting at national level	Alternative 2: Measuring/reporting at Business Area Unit level	Alternative 3: Measuring/reporting at both national and Business Area Unit level
	CC5	+/-	+/-	++/-
	CC6	+/-	+/-	++/-
	CC7	+/-	+/-	++/-
Preferred Alternative Alternative 3: Measuring/reporting at both national and Business Area Unit level. Reasons for Selecting the Preferred Alternative Coillte considered measuring and reporting on defined Actions at national level and at BAU level. It was decided to measure/report on Actions at both levels depending on the nature and specifics of the Action. Coillte decided to report LUSIP actions at the BAU level where there is clearer visibility of targets and delivery pathways—such as in areas like Timber Production. This will ensure implementation is adapted to local context, enhancing effectiveness of the plan. However, for actions where target-setting or delivery mechanisms are still evolving, or where implementation is coordinated centrally, reporting is done at the national level. This mixed approach allows Coillte to balance local and national priorities, ensuring that reporting remains both practical and meaningful. Overall, the approach chosen is more likely to lead to effective delivery of the Plan, including Coillte's ambitions to deliver climate mitigation, nature restoration and appropriate environmental protection.				



6.7 Data Gaps relating to the Identification and Evaluation of the Reasonable Alternatives

There were no data gaps that inhibited the ability of the project team to identify and evaluate Reasonable Alternatives considered during the Plan development process.



7. EVALUATION OF THE ENVIRONMENTAL EFFECTS OF PLAN IMPLEMENTATION

7.1 Introduction

An evaluation of the potential effects of the Plan on the baseline environment, as characterised and described in Section 4 of this report, was carried out and is documented in this section of the report. This evaluation was carried out against the Strategic Environmental Objectives (SEOs) established for the aspects of the baseline environment which are likely to be significantly affected by the Plan. These SEOs are documented in Section 5 of this report.

7.2 Evaluation of the Environmental Effects of Plan Implementation

A detailed evaluation of the potential effects of the Plan on the baseline environment was carried out in accordance with the SEA Directive and best practice guidelines. A standardised evaluation matrix was developed to facilitate the evaluation of the Plan on SEOs relevant to each Environmental Component. An explanation of the approach and methodology for this detailed evaluation and completed evaluation matrices presenting the detailed evaluation are contained in Appendix 3 of this report.

An overview of the main environmental effects the Plan may have on the receiving environment is presented below.⁹⁹

Potential Positive Environmental Effects

- The plan defines a range of actions under the 'Forests for Climate' pillar that have the potential to generate positive effects for the climate environment. Several actions support the realisation of national afforestation ambitions. These actions have the potential to increase carbon sequestration levels nationally and decrease overall Greenhouse Gas (GHG) emissions associated with the Land Use, Land Use Change and Forestry sector, in line with the objectives of climate legislation and policy. Several actions will support, promote and drive peatland restoration/re-design projects,¹⁰⁰ which have the potential to contribute to increased GHG sequestration and reduced GHG emissions. These afforestation and peatland restoration/re-design actions have the potential to generate long-term, significant to profound positive effects on climate and inter-related environmental components (e.g., biodiversity, population and human health etc.).
- Plan actions promote climate adaptation through Coillte forestry/land use planning processes. This will support the prevention and reduction of the effects of climate change on forestry operations occurring on the Coillte estate (e.g., associated with extreme weather/storms, wildfire, flooding etc). This has the potential to generate long-term, significant to profound positive effects on population and human health and material assets (through promoting the protection of the forest estate and ensuring a reliable supply of wood product to the market), cultural heritage, biodiversity, soils, water quality and hydrology.

⁹⁹ Environmental effects of the Plan have been described in accordance with descriptive terminology defined in the Environmental Protection Agency's guidance document entitled 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (2022).

¹⁰⁰ Subject to carbon-related financing.



- Plan actions support the carrying out of renewable energy, grid infrastructure and energy storage development by FuturEnergy Ireland and other renewable energy developers on the Coillte estate. The development of this infrastructure has the potential to contribute substantially to Ireland's climate and renewable energy targets and may generate long-term, very significant to profound positive effects for climate and inter-related environmental components (e.g., biodiversity, population and human health etc.).
- Plan actions defined under the 'Forests for Wood' pillar promote, support and drive sustainable and indigenous forestry activity, afforestation and timber demand/production nationally. This has the potential to have a range of long-term, significant to profound positive environmental effects, including positive effects on climate (through increased afforestation and associated carbon sequestration), biodiversity, the water environment (through water regulation and filtration improving water quality), air quality, soils, material assets (through provision of wood product to the market for use in construction) and population and human health (through the creation of employment and increased economic activity).
- Various plan actions support the protection of commercial forestry assets on the Coillte estate (e.g., from storm damage, wildfire, disease etc.). The implementation of these actions has the potential to generate long-term, significant to profound positive effects on population and human and material assets (through the protection of commercial forestry, employment, livelihoods, timber production and supply).
- The plan defines a range of actions under the 'Forests for Nature' pillar that have the potential to generate long-term, significant to profound positive effects on biodiversity and inter-related environmental components (population and human health, water, soils etc.), including actions that support substantial nature restoration, effective and optimal biodiversity management/protection, sustainable forest management approaches, the protection of old and ancient woodland, water quality protection and improvement, enhancing the nitrogen cycle and invasive species management.
- The plan defines a range of actions under the 'Forests for People' pillar that support and drive the carrying out of tourism and recreation related development and activities on the Coillte estate, including strategic development. Tourism and recreation related development have the potential to generate long-term, positive environmental effects, including positive effects on population and human health (through increased economic activity, increased recreation/engagement with nature), cultural heritage (e.g. by creating synergies between the development and cultural heritage features) and tourism and recreation.
- Plan actions supporting the building of expertise and capacity in sustainable forest management, which has the potential to generate positive effects for population and human health (through the building expertise or mastery, the creation of livelihoods etc.) and materials assets (through the enhancement of the labour force that underpins and delivery sustainable forest and timber production and supply nationally).



Potential Negative Environmental Effects (in the absence of environmental mitigation)

- A range of plan actions across various Plan pillars support the expansion of forestry in Ireland. The range of activities associated with forestry, including road construction, afforestation, harvesting and reforestation may have temporary to long-term, slight to very significant, negative effects on population and human health (through visual impacts, nuisance etc.), biodiversity (habitat loss/fragmentation, species disturbance etc.), landscape/seascape (if forestry is not sited and designed appropriately), cultural heritage (potential interference with heritage features and their surrounding setting, or previously uncovered or unrecorded features of archaeological significance), soils (through compaction, sealing, erosion, loss of organic matter etc.), the air and noise environments, water quality and hydrology (through increase eutrophication, sedimentation, changes in hydrology etc.), material assets (e.g. impacts on or conflicts with existing or planned infrastructure), or tourism and recreation (through visual effects on scenic routes, for example).
- A range of actions defined in the Plan support and promote the carrying out of peatland restoration/re-design projects. Such projects, if improperly designed, implemented or maintained, have the potential to generate various negative effects on the environment, such as temporary to long-term, slight to very significant, negative effects on climate (through poor design negatively affecting greenhouse gas emission fluxes), biodiversity (e.g., habitat and species impacts associated with restoration works, aquatic species that may be affected by changes in hydrology), heritage features (including the physical integrity of existing and unrecorded features), soils, and water quality and hydrology (e.g., downstream alterations in water quality or hydrological conditions - if projects are not supported by appropriate hydrological assessment, for example).
- Plan actions support the carrying out of renewable energy, grid infrastructure and energy storage development by FuturEnergy Ireland and other renewable energy developers on the Coillte estate. The development of this infrastructure, which will include impactful projects such as wind farms or linear grid connection projects, has the potential to generate a wide range of negative environmental effects in the absence of appropriate site selection, design, planning or maintenance, including temporary to long-term, slight to very significant, negative effects on population and human health (through visual impacts, shadow flicker or noise, for example), biodiversity (e.g., through habitat loss, bird strikes etc.), landscape/seascape, visual amenity, heritage (including the physical integrity of heritage features and the settings surrounding such features), soils (through excavations to accommodate built development e.g., wind farm foundations), the noise environment, water quality and hydrology, material assets (through impacts on or conflicts with other existing or planned infrastructure) and tourism and recreation (via impacts on scenic routes or landscape/seascape, for example). There is also the potential for negative effects on land-use through competing objectives for sustainable management practices to promote biodiversity enhancement and objectives for renewable energy production.
- Plans actions support the carrying out a range of nature restoration and biodiversity management relates projects and activities. These projects/activities, if mis-designed or mismanaged, may result in inadvertent, temporary to long-term, slight to very significant, negative effects on biodiversity.



The plan defines a range of actions under the 'Forests for People' pillar that support and drive the carrying out of tourism and recreation related development and activities on the Coillte estate, including strategic development. Tourism and recreation related development have the potential to generate temporary to long-term, slight to very significant, negative effects on biodiversity (through increased human interaction with sensitive ecological receptors, noise, land-take, lighting etc.), population and human health (due to construction dust, noise, changes in traffic and transport dynamics), landscape and visual amenity (through the construction of sizeable built development at visually sensitive locations), cultural heritage (due to interactions between the development and the physical integrity and/or setting of unknown or recorded heritage features), soils, the air and noise environment, the water environment (due to construction phase run-off, changes in hydrology or additional wastewater loading in an wastewater catchment/agglomeration), material assets or climate (e.g., from construction embodied carbon, or due to the creation of unsustainable transport/travel patterns).

7.3 Potential Cumulative Effect of the Plan in combination with other Plans and Projects

The cumulative effects of a plan are an important consideration in SEA given that a plan may envisage the occurrence of many different measures taking place in parallel with each other in a particular location/geographic area over a particular time period. One benefit of SEA is being able to evaluate the in-combination environmental effects of multiple envisaged measures and projects.

The following types of cumulative effects can occur due to the implementation of a plan:

- Intra-plan Cumulative Effects - Individual environmental effects associated with a single plan interacting and combining to create a larger environmental effect.
- Inter-plan Cumulative Effects - The environment effects of a plan and the environmental effects of another plan interacting and combining to create a larger environmental effect.

7.3.1 Intra-plan Cumulative Effects

The evaluation of Plan intra-plan cumulative effects was embedded into the detailed evaluation of environmental effects presented in Appendix 3. Potential intra-plan cumulative effects are presented below:

- Plan actions may interact and combine to generate larger, more significant positive cumulative effect on climate and inter-related environmental components (i.e. climate co-benefits). This includes actions that support afforestation, peatland restoration/re-design, nature restoration, biodiversity management/protection and renewable development and related infrastructure.
- A wide range of plan actions under each of the Plan pillars may act in combination to drive the growth of forestry in Ireland, potentially resulting in larger, more significant positive or negative cumulative effects akin to the forestry related effects described in Section 7.2.
- Various plan actions supporting development on the Coillte estate (e.g., renewable energy development, tourism and recreation development) may interact to produce large, more significant negative cumulative effects on environmental receptors that may be found at, around or connected to areas used for forestry, including water quality, soils, landscape character and visual amenity, biodiversity and European and other designated sites.
- Increased access to natural amenity sites within the Coillte estate could be facilitated by the combination of tourism and recreation related actions in the Plan. This increased interaction between people and ecological receptors may result in a larger, more significant cumulative effect on biodiversity.



- The Plan provides for actions which support the delivery of development and infrastructure projects which could contribute - if incorrectly managed - to cumulative impacts through construction related environmental effects (site run-off, dust, noise pollution etc.).
- The Plan supports a variety of actions/developments that could introduce catchment level cumulative impacts on water quality, flow and hydrological regime/characteristics (e.g., forestry, peatland restoration/re-design, renewable energy development projects).
- The variety of positive effects associated with the implementation of Plan actions have the potential to combine and interact and have long-term and wide encompassing positive environmental effects on a variety of environmental components, including population and human health, climate, biodiversity, water quality and hydrology and material assets.
- The variety of positive climate related actions associated with the Plan have the potential to combine and create a larger and very significant to profound positive effect on climate - having regard to the share of GHG emission reductions that can be supported through the Plan relative to national GHG emission reduction targets and requirements.

The potential cumulative environmental effects listed above have the potential to extend beyond the boundary of the Plan area.

Plan actions that generate positive or negative environmental effects for one environmental component have the potential to indirectly generate positive or negative environmental effects for inter-related environmental components. For example, actions that support the protection of water quality can in turn result in positive effects on aquatic ecology.

An assessment of impact inter-relationships and interactions is embedded in the evaluation of environmental effects that was carried out in this report (which is detailed in full in Appendix 3). This ensures that there was adequate coverage of all potential environmental effects associated with the implementation of the Plan. A matrix showing the main potential inter-relationships between environmental components was developed and is presented in Table 7-1 to aid in the understanding of these relationships.



Table 7-1 Inter-relationships between Environmental Components

Inter- relationship Matrix	Population and Human Health	Biodiversity, Flora and Fauna	Water	Air Quality and Noise	Cultural Heritage	Geology and Soils	Landscape and Visual Amenity	Material Assets	Tourism and Recreation	Climate
Population and Human Health		✓	✓	✓	✓	✓	✓	✓	✓	✓
Biodiversity, Flora and Fauna	✓		✓	✓	✓	✓	✓	✓	✓	✓
Water	✓	✓			✓	✓		✓	✓	✓
Air Quality and Noise	✓	✓			✓				✓	✓
Cultural Heritage	✓	✓	✓	✓		✓	✓	✓	✓	✓
Geology and Soils	✓	✓	✓		✓			✓		✓
Landscape and Visual Amenity	✓	✓			✓				✓	
Material Assets	✓	✓	✓		✓	✓			✓	✓
Tourism and Recreation	✓	✓	✓	✓	✓		✓	✓		✓
Climate	✓	✓	✓	✓	✓	✓	✓	✓	✓	



7.3.2 Inter-plan Cumulative Effects

Other legislation, plans and programmes that the Plan has a relationship with are presented and discussed in Appendix 1. Potential inter-plan cumulative effects are presented below:

- The Plan supports development and activities that may generate positive and negative cumulative environmental effects in combination with development and activities supported by other plans and programmes, including statutory land use plans (the national Planning Framework, Regional Spatial and Economic Strategies, City/County Development Plans etc.) and other plans across all sectors of society, including renewable energy, transport and agricultural plans and plans relevant to Northern Ireland (e.g. Regional Development Strategy 2035). The cumulative effects that may be generated by the Plan in-combination with other plans and programmes is akin to the types of effects identified in Section 7.2.
- The Plan supports a variety of measures supporting forestry activity and peatland restoration/re-design projects - which could introduce catchment level cumulative impacts (positive or negative) on water quality, flow and hydrological regime/characteristics, in-combination with other plans and programmes (e.g., the Water Action Plan the Common Agriculture Policy Strategic Plan, Food Vision etc.).
- The variety of positive effects associated with the implementation of Plan actions have the potential to combine and interact with policy measures contained in other plans and programmes (the national Climate Action Plan, the National Biodiversity Plan, the Water Action Plan and have long-term and wide encompassing positive environmental effects on a variety of environmental components, including population and human health, climate, biodiversity, water quality and hydrology, and material assets.
- The variety of positive climate related measures defined in the Plan have the potential to generate a cumulative positive effect on climate – in combination with climate policy measures defined in other plans, including the national Climate Action Plan, Local Authority Climate Action Plans and the Northern Ireland Energy Strategy 2050.
- The variety of positive biodiversity related measures defined in the Plan have the potential to generate a cumulative positive effect on biodiversity – in combination with biodiversity policy measures defined in other plans, including the Local Authority Biodiversity Action Plans and the National Biodiversity Action Plan 2023–2030.
- The range of measures in the Plan that support tourism and recreation development have the potential to generate cumulative positive effects for tourism and recreation, in combination with tourism, recreation and sport development related plans (being implemented by Fáilte Ireland or Local Authorities, for example).
- The variety of measures in the Plan which support the growth of the forestry sector have the potential to combine with measures in other economic development related plans to generate a larger, more significant positive cumulative effect on population and human health and materials (through the generation of employment, the reliable supply of timber for construction of housing etc.).
- Climate adaptation measures within the Plan have the potential to interact and combine climate adaptation measures defined under the National Adaptation Framework and the Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plans to generate larger, more significant positive cumulative effects on a variety of environmental components, through strengthening climate resilience.



The potential cumulative environmental effects listed above have the potential to extend beyond the boundary of the Plan area.

7.4 Potential Transboundary Environmental Effects

Transboundary Environmental Effects were a fundamental consideration during the carrying out of the environmental assessment and form an intrinsic part of the detailed environmental assessment presented in Appendix 3. In the absence of any mitigation, the identified effects, as presented in Section 7.2 and 7.3 have the potential to also impact Northern Irish receptors within the zone of influence of or connected to the Plan area.



8. MITIGATION MEASURES

Potential environmental effects that may occur as a result of the implementation of the Plan (without considering any mitigation) have been identified in Section 7 of this report. The SEA Directive requires that mitigation measures to prevent, reduce and as fully as possible offset any potential significant negative environmental effects due to the implementation of a Plan are defined. This section of the report describes the measures to mitigate the potential negative environmental effects that may occur as a result of the implementation of the Plan.

Following the evaluation of the environmental effects of Plan implementation, the following forms of mitigation were adopted to mitigate the negative environments of the Plan:

- Mitigation through consideration of alternatives.
- Mitigation through integration of environmental considerations into the Plan.

The Plan-making process was carried out in parallel with the SEA and AA processes. Regular communication and interaction took place between the Environmental Assessment Team and the Plan-making Team. Environmental considerations that came to light during the SEA and AA processes, including consultation processes, were regularly communicated to the Plan-making Team during the Plan-making process.

A strong level of embedded environmental mitigation was found to be present in early drafts of the Plan. As necessary, additional environmental mitigation measures to mitigate the potential negative environmental effects of implementing the Plan were identified and then integrated into the Plan. The environmental assessment process was carried out in an iterative manner to ensure optimal Plan-making and environmental outcomes. Environmental considerations were also integrated into the Plan so as to facilitate maximising identified positive environmental effects of the Plan. Overall, three forms of environmental mitigation were integrated into the Plan, as follows:

1. Additional Actions relating to environmental protection were defined and integrated into the Plan.
2. Pre-existing Plan Actions were amended. Various initial Plan Actions have been amended to clarify environmental protection related obligations and environmental enhancement opportunities associated with the actions. The Actions have been better shaped to ensure that environmental considerations are appropriately taken into account during Plan implementation.
3. An Environmental Governance Framework (EGF) for the Plan was developed and integrated into the Plan. The environmental mitigation presented in this EGF is specific to the implementable actions defined in the LUSIP. The EGF has been developed cognisant of higher-order environmental mitigation defined in the FESLUP and inter-related plans and programmes, to ensure appropriate alignment between plans and programmes and avoid duplication of environmental mitigation requirements.

8.1 Mitigation through consideration of alternatives

A number of alternatives were considered at an early stage in the process. The environmental effects of these alternatives were evaluated during the SEA process. The preferred Plan was chosen over the other alternative options having due regard to the potential environmental effects (positive and negative) associated with alternatives considered.



8.2 Mitigation through integration of environmental considerations into the Plan

The Plan development process was carried out in parallel with the SEA and AA processes. Regular communication and interaction took place between the environmental assessment team and the Plan-making team. Environmental considerations that came to light during the SEA and processes, including consultation processes, were regularly communicated to the Plan-making team during the Plan-making process.

A strong level of embedded environmental mitigation/enhancement measures were found to be present in early drafts of the Plan. Examples of environmental mitigation/enhancement measures integrated into early iterations of the Plan to prevent, reduce and fully offset potential significant negative environmental effects and to maximise potential environmental benefits and co-benefits of the Plan, are presented in Table 8-1. Some of these Actions were subsequently amended or added to, to take account of environmental considerations during the Plan-making process.

Additional Environmental Mitigation Measures (additional Plan Actions) recommended to augment environmental protection and enhancement-related actions defined in earlier iterations of the Plan are presented in Table 8-2. These additional Actions have been fully integrated into the Plan by Coillte.

Various initial Plan Actions have been amended to clarify environmental protection related obligations and environmental enhancement opportunities associated with the actions. The Actions have been better shaped to ensure that environmental considerations are appropriately taken into account during Plan implementation. These Action amendments are presented in Table 8-3.

The Environmental Governance Framework for the Plan is presented in Table 8-4.

These mitigation measures were integrated into the Plan to avoid, prevent and minimise the environmental effects of the Plan on various environmental components (as identified and presented in Appendix 3 - Detailed Evaluation of Environmental Effects). Environmental components that each mitigation measure serves to avoid, prevent and minimise effects upon have been itemised in the tables below. The key for the Environmental Components is presented below:

- Population and Human Health - PHH
- Biodiversity, Flora and Fauna - BFF
- Landscape, Seascape and Visual Amenity - L
- Cultural Heritage - CH
- Soils - S
- Land Use - LU
- Air Quality and Noise - AQN
- Water - W
- Material Assets - MA
- Tourism and Recreation - TR
- Climate Change - CC



Table 8-1: Embedded Environmental Mitigation

Action Reference	Action	Related Environmental Components
CO1.A1	Outline the potential pathways for supporting the delivery of 100,000 ha by 2050.	CC, BFF, W, PHH, AQN, S, MA, LU
CO3.A1	Support and facilitate those public bodies who are committed to pursuing opportunities for afforestation on publicly owned land by supplying key afforestation management and planning services.	CC, BFF, W, PHH, AQN, S, MA, LU
CO4.A1	Consider proposals to help promote farmer-led afforestation and collaborate with key stakeholders.	CC, BFF, W, PHH, AQN, S, MA, LU
CO5.A1	Explore funding models to deliver nature and climate-based credits and create projects that will deliver new afforestation and continue to support investors in Irish forestry by providing afforestation, woodland management and other important services to investor funds that promote afforestation.	CC, BFF, W, PHH, AQN, S, MA, LU
CO7.A1	Engage with experts and practitioners undertaking large scale peatland rehabilitation programmes in Ireland and continue to review the international literature and develop best practices on the redesign of peatland at scale.	CC, BFF, W, PHH, AQN, S, MA, LU
CO9.A1	Update land-use planning model to generate GHG profile using up-to-date inventory and harvest volume data and undertake analysis to ensure proposed management options implemented within the timeframe of this plan supports the delivery of the longer-term ambition.	CC, BFF, W, PHH, AQN, S, MA, LU
CO10.A1	Continually review and analyse forest management practices that can support climate mitigation, and where appropriate engage with scientific experts in the field to further understand the data and knowledge of carbon dynamics. Consider how they can be incorporated into reporting requirements such as SBTi and GHG protocol.	CC, BFF, W, PHH, AQN, S, MA, LU
CO11.A1	Develop a forest resilience strategy that considers the impacts of climate change, identifies risks and mitigations as well as the risk of pests and diseases and evaluate how these findings can be incorporated into our planning models.	CC, BFF, W, PHH, AQN, S, MA, LU, CH
CO14.A1	Continue to enable FEI and non-FEI projects where appropriate through providing land agreements to facilitate renewable energy projects.	CC, BFF, W, PHH, AQN, S, MA, LU CH
NO1.A1	Coillte will identify an additional c.44,000 ha across the estate to be managed primarily for nature. The BioClass system will be used to rank the ecological value of these new biodiversity areas and to assign a target habitat, which indicates the overall management goal.	BFF, CC, W, S, PHH



Action Reference	Action	Related Environmental Components
NO2.A1	Scale up the management of biodiversity areas; increase the annual operational programme aiming to deliver, by 2029, biodiversity interventions on 2,000ha. The management actions will primarily include CCF, coupe felling, control of invasive species and re-wetting or maintaining ecologically important bog habitat and will be informed by Biodiversity Area Management (BAM) Plans that are prepared jointly by foresters and ecologists.	BFF, CC, W, S, PHH
NO3.A1	Coillte will map ancient forests on the estate, assess their ecological value using BioClass procedure and develop appropriate management approach.	BFF, CC, W, S, PHH, CH
NO5.A4	Develop a process for recording and reporting species (flora and fauna) to build our knowledge of their occurrence across the estate and to better inform appropriate protection measures.	BFF, CC, W, S, PHH
NO13.A1	Maintain and update the existing protocols for protected species and habitats adopted in Coillte appropriate assessment and develop action plans for key species on the estate (e.g. lesser horseshoe bat).	BFF, CC, W, S, PHH
NO13.A2	Continue engagement and partnership projects with NPWS and other relevant agencies e.g. IFI, to deliver management actions to enhance species and habitats, moving them towards more favourable conservation status.	BFF, CC, W, S, PHH
NO17.A1	Develop best practice for controlling invasive species on Coillte sites and engage with other agencies to share experiences and knowledge.	BFF, PHH
NO19.A1	Identify and create packages of work to enable delivery of biodiversity goals relevant to the Coillte estate, improving habitat quality in biodiversity areas and benefiting key species on the estate.	BFF, CC, W, S, PHH
PO4.A1	Develop sustainability plan at key destinations and report on the visitor numbers and associated sustainability factors annually.	All
PO8.A1	Create a community engagement model that facilitates public and local authority participation in the development and maintenance of Recreation Areas while providing opportunities for local communities to contribute and benefit.	PHH, TR, MA, CH
PO9.A1	Using industry expertise, measure and quantify the economic, social and wellbeing benefits of outdoor recreation.	PHH, TR
PO9.A2	Expand the Woodlands for Health programme.	PHH, TR



Action Reference	Action	Related Environmental Components
PO16.A1	Advance the Workforce Capacity Project by collaborating with industry forums, educators, and government stakeholders to design and deliver targeted training programs, enhance tertiary education curricula, and develop innovative initiatives, such as digital learning experiences for students, to attract new entrants and build skills in emerging areas. Additionally, advocate for the inclusion of forestry-related skills on the Critical Skills List, monitor annual updates, and address gaps in recognising essential forestry roles through partnerships and apprenticeships.	PHH, MA
PO19.A1	Continue to monitor H&S across the estate and provide updated guidance to all staff and contractors.	PHH

Table 8-2: Additional Actions

Action	Related Environmental Components
Coillte commit to delivering the Land Use Strategic Implementation Plan (LUSIP) actions in accordance with the Environmental Governance Framework (EGF) defined under the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) of the LUSIP. This EGF provides a policy-level framework for environmental protection and will inform decision-making and will guide lower-level plans, projects and activities being delivered under the LUSIP.	All
Coillte commit to adopting and implementing all recommendations relating to environmental protection defined under the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) of the LUSIP.	All

Table 8-3: Amendments to Pre-existing Plan Action

Action Reference	Action	Amendment (additional text in Red)	Related Environmental Components
CO1.A1	Outline the potential pathways for supporting the delivery of 100,000 ha by 2050.	Outline the potential pathways to support the sustainable delivery of 100,000 ha by 2050.	All
CO3.A1	Support and facilitate those public bodies who are committed to pursuing opportunities for afforestation on publicly owned land by supplying key afforestation management and planning services.	Support and facilitate those public bodies who are committed to pursuing opportunities for afforestation on publicly owned land by supplying key afforestation management and planning services, where appropriate .	All



Action Reference	Action	Amendment (additional text in Red)	Related Environmental Components
CO4.A1	Consider proposals to help promote farmer-led afforestation and collaborate with key stakeholders.	Consider proposals to help promote sustainable farmer-led afforestation and collaborate with key stakeholders.	All
CO6.A1	Review existing in-house information to identify potential locations for the redesign of ca. 15,000 ha of peatlands and engage with external stakeholders. Redesign of Peatland Forests will ultimately be delivered over the longer term through a combination of rewetting/rehabilitation ("Forest-to-Bog" projects) and through transiting commercial forests to semi-natural forests with open spaces as appropriate.	Review existing in-house information to identify potential locations for the redesign of ca. 15,000 ha of peatlands and engage with external stakeholders, as appropriate, ensuring environmental considerations and constraints inform this process where possible. Redesign of unproductive Peatland Forests will be science-based and will ultimately be delivered - subject to carbon funding initiatives - over the longer term through a combination of rewetting/rehabilitation ("Forest-to-Bog" projects) and transitioning to semi-natural forests with open spaces as appropriate.	All
CO7.A1	Engage with experts and practitioners undertaking large scale peatland rehabilitation programmes in Ireland and continue to review the international literature and develop best practices on the redesign of peatland at scale.	Engage with experts and practitioners undertaking large scale peatland rehabilitation programmes in Ireland and continue to review the international literature and develop best practices on the redesign of peatland at scale in an Irish context.	PHH, BFF, S, LU, W, MA, TR, CC
NO13.A1	Maintain and update the existing protocols for protected species and habitats adopted in Coillte appropriate assessment and develop action plans for key species on the estate (e.g. lesser horseshoe bat).	Maintain and update the existing protocols for protected species and habitats adopted in Coillte appropriate assessment and develop action plans for key species on the estate (e.g. lesser horseshoe bat, freshwater pearl mussel etc.) having due regard to existing and emerging best practice and relevant NPWS species plans, such as the following: Hen Harrier Threat Response Plan Lesser Horseshoe Bat Species Action Plan.	BFF, W
WO12.A1	Develop evidence-based reports to support initiatives aimed at increasing the use of timber in construction and disseminate key findings to effectively promote and highlight the benefits of increased timber usage.	Develop evidence-based reports to support initiatives aimed at increasing the use of sustainable timber in construction and disseminate key findings to effectively promote and highlight the benefits of increased sustainable timber usage.	All



Action Reference	Action	Amendment (additional text in Red)	Related Environmental Components
PO5.A1	Develop bespoke partnerships to design and build new visitor destinations based on the requirements of each project.	Develop bespoke partnerships to design and build new visitor destinations based on the requirements of each project. Seek to secure the support of partners who are experts in developing sustainable visitor destinations.	All
PO9.A2	Expand the Woodlands for Health programme.	Expand the Woodlands for Health programme, while promoting sustainable and environmentally responsible interaction with woodland areas.	PHH, BFF, S, AQN, W, TR, MA, CC

Table 8-4: Environmental Governance Framework

Environmental Mitigation	Related Environmental Components
Peatland Forest Redesign projects shall be science based and will be designed and implemented in accordance with identified best practice to ensure optimal environmental and climate outcomes, including minimising Greenhouse Gas (GHG) emissions during works and increasing GHG sequestration over time.	All
Forest-to-Bog projects will be conducted for the purpose of delivering environmental, biodiversity and climate benefits. Forest-to-Bog projects will be designed in a way that prevents/minimises unintended adverse effects on the environment, including biodiversity, European sites, soils or water, which could potentially occur due to the physical and landscape changes associated with these projects. These projects shall be carried out in accordance with relevant environmental legislation and in alignment with inter-related environmental policy, supporting the protection of the environment (e.g., Water Action Plan 2024, 4th National Biodiversity Action Plan etc.).	All
Monitoring and management frameworks for redesigned peatlands will be developed by suitably qualified experts in accordance with best practice. A multi-disciplinary team of geo-technical and environmental experts will be required to provide input into the framework development process to ensure environmental effects are properly measured, quantified and identified, including effects on ecological receptors, hydrology, ground conditions and GHG flux. The framework will include for example: 1) An environmental assessment process to identify environmental sensitivities and define necessary monitoring and remedial actions and environmental mitigations; and 2) Method statement for the carrying out of measurement techniques in accordance with relevant standards.	BFF, W, S, CC
Archaeological surveying will be carried out to inform peatland redesign projects as appropriate to site type. Archaeological monitoring will be undertaken during works, where necessary. Archaeological mitigation will be adopted and implemented during projects in accordance with the Planning Authority and National Monument Services requirements, where required.	CH, PHH



Environmental Mitigation	Related Environmental Components
Land agreements to facilitate renewable energy development projects and associated grid infrastructure development projects shall require the consideration of the following by the third-party developer: All projects shall be subject to EIA and AA Screening and/or full EIA and AA as necessary, having due regard to European sites and associated Qualifying Interests/Special Conservation Interests when designing, planning and operating projects in accordance with legislative requirements. Appropriate regard shall be had for potential adverse effects on ecology when designing and planning projects. Projects will be obliged to adhere to mitigation measures as outlined in the EIA and conditions of planning. All renewable energy development projects and associated grid infrastructure development projects carried out by third party developers within the Coillte estate are required to be compliant with planning and environmental legislation by the third-party developer.	ALL
Seek to augment forest planning processes and enhance forest management practices, as necessary, to support improvements in water quality, in line with emerging and future DAFM requirements and the objectives of the Water Action Plan 2024 (and any relevant future iterations of this Plan).	W, BFF, PHH, TR, MA
Continue to adopt, implement and promote measures to reduce chemical pesticide use in forestry in line with the EU Regulatory Framework for Pesticides.	S, BFF, W, PHH
Continue to prevent and mitigate potential impacts of Coillte's operations, projects, and activities on biodiversity, with the aim of avoiding negative effects and promoting positive effects on habitats and species, in alignment with the objectives of the 4th National Biodiversity Action Plan (and any future iterations of this Plan).	BFF, W, S, PHH, TR, L, CC
Implement the Memorandum of Understanding between Coillte and The National Parks and Wildlife Service, with a view to protecting, restoring and enhancing habitats and species of nature conservation value on the Coillte estate.	BFF
Coillte shall ensure all forestry-related operations are undertaken in accordance with relevant environmental protection requirements and DAFM standards/guidelines, including but not limited the following: • Forestry Standards Manual (DAFM, 2024) • Environmental Requirements for Afforestation (DAFM, 2024) • Conditions for Felling and Reforestation Standards for Felling & Reforestation (DAFM, v2019) • Land Types for Afforestation Land Types for Afforestation: Soil & Fertility (DAFM, 2024)	BFF, W, S, L, PHH, MA, AQN
Promote and facilitate the transition to the use of alternative fuel vehicles in forestry and transport operations with a view to decarbonizing operations in line with national climate objectives.	PHH, MM, CC
Biodiversity Area Management Plans (BAMPlans) will be developed for biodiversity areas on the Coillte Estate, in accordance with Coillte's current procedure. Coillte will engage with the NPWS, where necessary, to consult on BAMPlans and to source species data for sites, where relevant. BAMPlans will be developed by Senior Ecologists and Foresters collaboratively.	BFF, W, S, PHH, TR, L, CC



Environmental Mitigation	Related Environmental Components
Protocols for habitat and species protection will be developed by competent ecologists and will have due regard for best practice and the most up-to-date scientific information and guidelines.	BFF, W, S, PHH, TR, L, CC
BAMPlans will be developed for all Coillte sites within European sites (SACs) which are designated for woodland QIs or contain woodland as a supporting habitat (i.e. bog woodland and peatland habitats). BAMPlans will have due regard for the conservation objectives of the SAC and corresponding woodland QI.	BFF, W, S, PHH, TR, L, CC
The implications of forestry activities on European sites shall be considered as necessary during the preparation of any BAMPlans (in terms of alignment with conservation objectives) and during the DAFM licence application process. Where Appropriate Assessments/Natura Impact Statements are required for forestry operations, mitigation prescribed under the AA process will be sufficiently robust to ensure the forestry projects will not have adverse effects on the integrity of European sites, in accordance with Article 6(4) of the Habitats Directive (92/43/EEC).	BFF, W, S, PHH, TR, L, CC
Coillte will continue to develop and implement BAMPlans for biodiversity areas that contain invasive species. BAMPlans will have due regard for best practice and the most up-to-date scientific information and guidelines for the treatment of invasive species.	BFF, W, S, PHH, TR, L, CC
All forestry works will continue to be undertaken by suitable qualified professionals.	BFF, W, S, PHH
Coillte commit to continually improving forest management practices, ensuring alignment with emerging and future forest-related good practice guidelines and standards, as appropriate, in light of future trends and evidence-bases.	BFF, W, S, PHH
Proactively seek opportunities to plant native woodland in riparian zones in support of biodiversity and water quality protection aims, having regard to DAFM's Woodland for Water document - in support of policy aims to protect and improve water quality in Ireland.	BFF, W, S
Have due regard to soil type and the location of acid sensitive headwater catchments when undertaking forestry planning processes - with a view to preventing afforestation occurring at unsuitable locations and resulting in adverse effects on water quality.	BFF, W, S
Ensure forest planning processes and forest management practices are suitably informed by latest research on forestry's potential impact on water quality, including outputs from the EPA's HYDROFOR research project, for example.	W, BFF, S, PHH
Seek to inform, shape and adhere to all future DAFM requirements relating to water quality protection/enhancement, including requirements arising from the implementation of the Water Action Plan 2024 (and future iterations) and emerging and future environmental research.	W, BFF, S, PHH
Secure and resource multi-disciplinary teams to deliver large-scale forestry projects in accordance with relevant environmental protection requirements, including foresters, environmental scientists, ecologists, hydrologists, archaeologists and other specialists, as appropriate.	All



Environmental Mitigation	Related Environmental Components
Appropriate consideration shall be given to potential impacts any Coillte project may have on environmental receptors in Northern Ireland, such ecological receptors (including migratory/mobile species, designated sites, important non-designated habitats etc.), water quality in cross-border water bodies, Northern Irish heritage assets etc. Coillte will seek to consult with Northern Irish environmental stakeholders in relation to projects that may give rise to transboundary environmental effects.	All
Coillte shall ensure due regard is had to potential impacts on landscape character and visual amenity when planning, designing and delivering forestry projects. All Coillte forestry projects shall be carried out in line with relevant landscape related guidelines/standards (e.g. DAFM's Forestry and the Landscape Guidelines) with a view to ensuring forestry projects are integrated into and complement existing landscape and do not have adverse effects on landscape (including seascape) character, protected/sensitivities views or prospects, or sensitive visual receptors.	L, PHH
The potential impact of recreational development on biodiversity, including protected flora species, will be considered, as necessary, when designing and planning such development. Appropriate ecological mitigation will be integrated into development projects that have the potential to generate significant adverse effects on sensitive ecological receptors.	BFF, AQN, W, S, PHH, TR
Coillte shall continue to require third-party operators, who manage certain recreational activities within the Coillte Estate, to adhere to all relevant environmental protection requirements.	All
Visitor destination developments will be sustainably managed in accordance with planning requirements. Where necessary and in locations where recreational access is formalised only, recreational activity will be appropriately managed by Coillte so as to ensure litter prevention, ecological protection, water quality, noise limitation and heritage protection.	BFF, AQN, W, S, PHH, TR
Visitor destination development shall be designed, planned, and constructed in accordance with best practice, to ensure such development will not adversely affect the environment. Lighting design shall prevent adverse effects on light sensitive species. Sustainable Urban Drainage Systems (SUDS) and Nature-Based Solutions (NBS) shall be incorporated into designs where feasible.	BFF, AQN, W, S, PHH, TR, CC
Any visitor destination development taking place at sensitive locations should be designed in a manner that promotes positive effects on landscape character and visual amenity and uses natural and flowing forms (including biophilic design principles, where feasible) that integrate seamlessly with natural landscape elements. Materials best suited to that type of approach will be natural and robust giving a strong sense of permanence and integration. Green roofs and Sustainable Urban Drainage System (SUDs) principles should also be incorporated into projects, where feasible.	L, PHH, CH
Built development within the Coillte Estate shall be designed and constructed in a manner that has appropriate regard to the setting surrounding heritage assets that may be present in an area. Archaeological and/or Architectural Heritage Impact Assessment shall be undertaken for development projects, as required under planning legislation. Such assessment shall have regard to potential impacts on both the physical integrity and setting of archaeological/architectural features.	CH, L, PHH



Environmental Mitigation	Related Environmental Components
Appropriate Traffic and Transport Assessment shall be undertaken for visitor destination development that may give rise to significant traffic and transport related impacts, where required under planning legislation. Sustainable mobility measures should integrate into such projects in alignment with national sustainable mobility policy aims. Consultation with transport authorities and providers shall take place when planning such projects with a view to promoting the use of public transport to travel to and from visitor destinations.	MA, PHH, CC
Climate mitigation measures shall be embedded into the design of visitor destination developments, as necessary (e.g., electric vehicle charging points, rooftop solar panels, energy efficient design etc.).	CC, MA, PA
The following themes shall be promoted when planning visitor destinations: Amenity and Recreation, Sustainability and Climate Change, Circularity, Biodiversity and Heritage, Education and Sustainable Practices, and Health and Well-being.	All
Visitor destination projects will be subject to EIA and AA Screening, and full EIA and AA, where required under planning legislation. Appropriate environmental mitigation will be integrated into developments, as necessary, to prevent adverse effects on the environment.	All
Coillte shall ensure that development projects supported or promoted by the LUSIP accord with flood risk planning requirements, avoiding inappropriate development in areas at risk to flooding and new developments increasing flood risk elsewhere.	W, PHH, BFF, CHH
Design habitat creation, restoration and enhancement into development projects occurring within the Coillte Estate, wherever feasible.	BFF, PHH, W, S
Continually improve the effectiveness of forestry related environmental mitigation measures and fill knowledge gaps, by reviewing environmental monitoring, and identifying any instances of mitigation failure, to inform remedial actions and/or revisions to future mitigation specifications.	All
Continue to maintain a Spatial Data Infrastructure (SDI) of forestry activities as well as existing and proposed developments to support cumulative and transboundary environmental impact assessment. Continue to utilise SDI to optimise delivery of Coillte goals, activities and projects, and environmental objectives generally	All
Ensure all Coillte's operations, projects and activities fully comply with all applicable environmental legislation, including but not limited to the following: - Habitats Directive - Birds Directive - Wildlife Act 1976 (as amended) - Flora Protection Order (S.I. no. 235 of 2022) - European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) - EIA Directive - Planning and Development Act - Planning and Development Regulations - Water Framework Directive and transposing legislation - Historic and Archaeological Heritage and Miscellaneous Provisions Act	All



Environmental Mitigation	Related Environmental Components
Northern Irish Environmental Legislation, as it may apply to projects and activities with cross-border components	
Archaeological surveying will be carried out to inform Coillte projects in accordance with, and as required by, current DAFM procedures. Archaeological monitoring will be undertaken during works, where necessary or required under DAFM procedures.	CH, PHH, MA, L
Coillte commit to preserving Ireland's natural heritage and cultural heritage sites (including their settings and amenity value) present within zones of influence of projects and activities supported by the LUSIP, and all UNESCO World Heritage Sites (and tentative sites) in the country. Coillte will also seek opportunities to enhance cultural and natural heritage when designing, planning and delivering its projects and activities.	CH, PHH, MA, L
Coillte commit to continue ensuring its projects and activities do not result in adverse effects on the integrity of European sites (Special Protection Areas and Special Areas of Conservation), considering their conservation objectives, in accordance with the Habitats Directive (92/43/EEC) and Birds Directive (2009/147/EC).	BFF, W, PHH, S
Coillte will continue to proactively support the achievement of Greenhouse Gas (GHG) emission reductions required for the Land Use, Land Use Change and Forestry (LULUCF) sector under the Climate Action and Low Carbon Development (Amendment) Act 2021 and the national Climate Action Plan 2025 (and future iterations).	C, PHH, BFF, W, S
Coillte will continue to undertake forestry in accordance with Sustainable Forestry Management principles and in accordance with relevant Forest Stewardship Council® (FSC® C005714) and the Programme for Endorsement of Forest Certification (PEFC/17-23-042) standards.	All
Coillte will conduct its operations in accordance with an Environmental Management System certified to the ISO 14001 standard.	All
Coillte will continue to implement an Environmental Risk Assessment (ERA) process to ensure potential environmental impacts of operations are systematically assessed, managed, and mitigated 'on the ground'. Coillte aim to review, monitor, and enhance this ERA process in accordance with the principle of continual improvement and in light of emerging and future legislative requirements and research.	All
Coillte will continue to proactively enable and support access to cultural and natural heritage features, where safe and feasible, collaborating with the National Monument Services, as required.	BFF, CH, PHH, MA
Coillte will seek to ensure forestry planning process and forest management practices are carried out having appropriate regard to the unique environmental, geographic, meteorological, social, and cultural characteristics of its six Business Area Units (BAUs). Project-level mitigation will be shaped, adjusted and honed as appropriate to ensure Coillte's projects and activities do not adversely affect special environmental sensitivities associated with individual BAUs.	All
Coillte commit to continuing to prevent the introduction and spread of invasive species in accordance with the European Union (Invasive Alien Species) Regulations 2024 and in support of Outcome 2H of the 4th National Biodiversity Action Plan (and future iterations, as appropriate).	BFF



Environmental Mitigation	Related Environmental Components
Coillte commit to proactively managing the risk of storm damage across its forestry sites, with the aim of minimising potential impacts on commercial operations and the environment. The following mitigation measures will be implemented to reduce vulnerability of forests to storm events: • Thinning: Wind risk considered into thinning planning at Strategic level. • Clearfelling: Consideration of forest opening size into Tactical planning to avoid creating unstable edges. • Roading: Consideration of windthrow risk in the design and construction of new roads. • Species Selection: Establish mixed species and spacing to creation windfirm edges, e.g. riparian zones, external boundaries, road lines. • Normalisation of Forest Age Structure: Over multiple rotations smooth out the forest age distribution, so the age profile of the forest is even. This reduces proportion of the forest at risk of windthrow at any one time.	MA, PHH, BFF, CC, W, S
Coillte commit to proactively managing the risk of wildfire across its forestry sites, with the aim of minimising potential impacts on commercial operations and the environment. The following mitigation measures will be implemented to reduce vulnerability of forests to wildfire events: • Collaborate at a national level with the National Emergency Directorate and County Fire Chiefs. • Fire Management- Share digital Fire Plans with each of the county emergency services. • Fire Management- Roll out the National Fire Awareness and Training Days. • Fire Management- Coillte support the Interagency European Forest Fire MODEX Simulation exercise. • Estates Emergency Plan- Develop an operational emergency plan for the Estate.	MA, PHH, BFF, CC, W, S

8.3 Conclusions

The reasonable alternatives evaluation presented in Section 6 has resulted in the development of a Plan that achieves the best environmental outcomes in comparison to other reasonable alternatives considered.

The adoption of the environmental mitigation measures integrated into the Plan (as presented in Section 8) will prevent, reduce and fully offset potential significant negative environmental effects due to the implementation of the Plan (identified in Section 7), and will ensure the Plan suitably accords with and supports the achievement of the SEOs (defined in Section 5) and wider environmental protection objectives defined in inter-related plans and programmes (presented in Appendix 1).

No further mitigation measures are required for the Plan.

The adoption of the environmental mitigation measures integrated into the Plan will also serve to prevent, reduce and fully offset potential significant negative transboundary effects that may be transmitted from the Plan area to Northern Ireland.



9. SEA MONITORING

The SEA Directive requires that the environmental effects of the implementation of a plan are monitored in order *'to identify at an early-stage unforeseen effects, and to be able to undertake appropriate remedial action.'*

A series of indicators and targets were established for identified SEOs to enable ongoing monitoring and measurement of Plan implementation performance, the environmental effects of the implementation of the Plan and the efficacy of environmental mitigation measures. Such monitoring will be carried out periodically to support Plan implementation.

SEO indicators are simple and effective quantifiable indicators used to measure the environmental effects of implementing the Plan and the progress of SEOs and related targets. SEO targets set focused, measurable aims and thresholds that the Plan can support the achievement of.

Coillte are responsible for implementation of the SEA monitoring programme. The environmental effects (including positive, negative and cumulative effects) of Plan implementation will be monitored continuously utilising Coillte monitoring processes over the course of the Plan's lifetime. This monitoring will be carried out by Coillte's Forest Planning Team. Monitoring reports will be produced on an ongoing basis to document monitoring outcomes.

Where monitoring identifies that the implementation of the Plan is having a significant negative environmental effect, an in-depth review of the Plan should take place and the Plan should be updated in a manner that satisfactorily mitigates these environmental effects (i.e., through the adoption of additional environmental mitigation measures.). Similarly, where monitoring indicates that potential positive environmental effects associated with Plan implementation are not being adequately realised, the Plan should be reviewed and updated in a manner that supports the realisation of all potential positive environmental effects, having regard to the overall vision, ambitions and strategic objectives of the Plan.

The SEA Monitoring Programme established for the Plan is contained in Table 10-1. This monitoring programme has been developed in accordance with EPA guidelines entitled 'Guidance on SEA Statements and Monitoring' (2023). The monitoring programme includes detail on the indicators, targets and data sources used to monitor and measure progress. It has been developed so as to align with the higher-order FESLUP, augment/focus environmental monitoring processes, and to avoid duplication of monitoring processes.

Coillte is responsible for the ongoing review of indicators and targets, collating relevant monitoring data, the preparation of monitoring evaluation reports, the publication of these reports and, if necessary, the carrying out of remedial action.



Table 9-1: SEA Monitoring Programme

Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
Overall	O1	Ensure, where appropriate, that lower-level plans and projects contribute to overall environmental monitoring processes within the LUSIP.	Alignment between lower level plans and projects and LUSIP environmental monitoring processes.	Complete alignment between lower level plans and projects and LUSIP environmental monitoring processes.	Coillte environmental monitoring systems/processes.
Population, Human Health & the Economy	PHH1	Minimize impacts from development and operations on population and human health.	Minimize impacts from development and operations on population and human health.	- Minimisation and mitigation of health and safety incidents among forest workers. - Minimisation and mitigation of impacts from development and operations on human receptors.	- Number of health and safety incidents among forest workers. - Number of valid complaints made in relation to environmental impacts/nuisance.
	PHH2	Minimize impacts from development and operations on economic activity and growth.	Minimize impacts from development and operations on economic activity and growth.	Conflict with land use policies/objectives promoting economic activity/growth.	No conflict with land use policies/objectives promoting economic activity/growth.
	PHH3	Engage with local communities and provide areas for amenity and recreational uses to promote wellbeing and human health.	Engage with local communities and provide areas for amenity and recreational uses to promote wellbeing and human health.	- Number/quantum of areas for amenity and recreational uses at the Coillte. - Number of people utilising the Coillte estate for amenity and recreation purposes.	- Increase the number/quantum of areas for amenity and recreational use on the Coillte estate. - Increase the number of people utilising the Coillte estate for amenity and recreation purposes.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	PHH4	Contribute positively to the well-being of workers and local populations.	Contribute positively to the well-being of workers and local populations.	- See Indicators for PHH1 and PHH3. - Increase local employment and community benefits associated with Coillte activities and development.	- See Targets for PHH1 and PHH3. - Internal monitoring of local employment and community benefits.
	PHH5	Promote economic growth within the forestry sector and contribute to job creation and business development in rural areas.	Promote economic growth within the forestry sector and contribute to job creation and business development in rural areas.	- Increase local employment associated with Coillte activities and development. - Economic growth statistics for forestry operations.	- Internal monitoring of local employment. - Improvement in Economic growth statistics for forestry operations.
	PHH6	Provide sustainable, high-quality timber products to the Irish market to meet demand and in support of housing development.	Provide sustainable, high-quality timber products to the Irish market to meet demand and in support of housing development.	Quantum of sustainable, high-quality timber products supplied to the Irish market.	Increase quantum of sustainable, high-quality timber products supplied to the Irish market.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
Biodiversity, Flora & Fauna	B1	Ensure compliance with Habitats and Birds Directives, with regard to protection of European Sites and Annexed habitats and species ¹⁰¹ as well as corresponding Northern Irish legislation.	- Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive. - Conservation status of Northern Irish SPAs and SACs.	- Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Plan. - No adverse effects on the integrity of SPAs/SACs due to development or operations.	- Internal monitoring of potential environmental effects of proposed development projects (i.e. through AA Screening/AA during the development planning process). - Internal monitoring of effects of forestry operations (e.g. biodiversity monitoring, AA Screening/AA).
	B2	Support Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species.	Status of landscape features that are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species.	Maintenance of ecological status of landscape features that are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species.	- Internal monitoring of potential environmental effects of proposed development projects (i.e. during the development planning process). - Internal monitoring of effects of forestry operations (e.g. biodiversity monitoring, AA Screening/AA).

¹⁰¹ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	B3	To avoid significant adverse impacts on semi-natural habitats, species, environmental features or other sustaining resources in designated national sites, non-designated locally important sites, and sites proposed for designation; in compliance with wildlife and invasive species legislation.	- Quantum of forest managed primarily for nature. - Number of biodiversity interventions.	- Increase quantum of forest managed for nature. - Increase number of biodiversity interventions.	Internal monitoring.
	B4	Go beyond biodiversity protection to deliver biodiversity enhancement and forest management for nature - in response to the biodiversity emergency and in line with the National Biodiversity Plan and its targets.	- Quantum of forest managed primarily for nature. - Number of biodiversity interventions.	- Increase quantum of forest managed for nature. - Increase number of biodiversity interventions.	Internal monitoring.
	B5	Manage old and ancient woodlands to enhance their biodiversity value.	Loss of or damage to old or ancient woodland	No loss of or damage to old or ancient woodland.	- Internal monitoring - Old and ancient woodland mapping
Landscape, Seascape & Visual Amenity	L1	Contribute to the conservation, protection, enhancement and management of the character and quality of Ireland's distinctive landscape and seascape.	Number of biodiversity interventions that have the potential to result in positive landscape impacts.	Increase biodiversity interventions that have the potential to result in positive landscape impacts.	- Internal monitoring of forest design and planning processes. - Internal monitoring of development planning processes.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			Impact of activities and development on landscape and seascape policy defined under the land use planning framework.	Alignment with landscape and seascape policy defined under the land use planning framework.	
	L2	Minimise development impacts on sensitive and/or important landscapes/seascapes, including those designated under the land use planning framework.	Number of developments that conflict with landscape and seascape related land use policies/objectives/ protections.	- No developments progressed that result in avoidable significant adverse landscape/seascape impacts. - No developments conflicting with landscape and seascape related land use policies/objectives/ protections.	Internal monitoring of potential environmental effects of proposed development projects (during the development planning process).
	L3	Minimise adverse visual effects, including effects on sensitive visual receptors and views and prospects designated under the land use planning framework.	Number of biodiversity interventions that have the potential to result in positive visual amenity impacts.	- Increase biodiversity interventions that have the potential to result in positive landscape impacts. - Alignment with visual amenity policy defined under the land use planning framework.	- Internal monitoring of forest design and planning processes. - Internal monitoring of development planning processes.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			Impact of activities and development on visual amenity policy defined under the land use planning framework.		
Cultural Heritage	CH1	Protect and conserve archaeological heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Monuments and Places (RMP), the prospective Register of Monuments and the Northern Ireland Sites and Monuments Record (NISMR).	Status of archaeological heritage features (and, where relevant, the associated surrounding context) protected from significant adverse effects due to development and operations supported by the plan.	No archaeological heritage features (nor the associated surrounding context, where relevant) significantly adversely affected due to development or operations supported by the plan.	- Internal monitoring of potential effects on archaeological heritage (during the development planning process). - Internal monitoring of forest design and planning processes. - Consultation with the National Monuments Service and DAERA's Historic Environment Division, as necessary.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	CH2	Protect and conserve architectural heritage features, and the settings surrounding these features that are part of or contribute to the character and value of these features, including entries to the Record of Protected Structures (RPS) and National Inventory of Architectural Heritage (NIAH), industrial heritage, Architectural Conservation Areas (ACAs) and features/conservation areas designated in Northern Ireland.	Status of architectural heritage features.	No architectural heritage features significantly adversely affected as a result of the implementation of this plan.	- Internal monitoring of potential effects on architectural heritage (during the development planning process). - Internal monitoring of forest design and planning processes. - Consultation with the National Monuments Service and DAERA's Historic Environment Division, as necessary.
	CH3	Promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical archaeological or architectural heritage where they arise.	- Number of archaeological or architectural heritage features enhanced. - Consideration of enhancement opportunities during visitor destination site development projects.	- Increased enhancement of archaeological or architectural heritage features enhanced. - Archaeological and architectural enhancement opportunities considered during all visitor destination site development projects.	- Internal monitoring of archaeological / architectural enhancement - Consultation with the National Monuments Service and DAERA's Historic Environment Division, as necessary.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
Geology and Soils	GS1	Minimise adverse effects on soil functions and deliver soil enhancement.	• Soil erosion levels. • Number of instances of environmental damage due to impacts on soil function. • Quantum of peatland restored/re-designed.	• Minimise soil erosion levels. • No instances of environmental damage due to impacts on soil function. • Increase quantum of peatland restored/re-designed.	• Internal monitoring of soil erosion. • Internal monitoring of environmental effects of proposed development projects and operations.
	GS2	Minimise adverse effects on the physico-chemical properties of soil.	• Number of contamination events affecting the physico-chemical properties of soil.	• No contamination events affecting the physico-chemical properties of soil.	• Internal monitoring of environmental effects of proposed development projects and operations.
	GS3	Increase uptake of sustainable soil management practices that contribute to the preservation of soil and peatlands, aiding in achieving good soil quality and stability.	• Number of sustainable soil management interventions. • Quantum of restored/re-designed.	• Increase number of sustainable soil management interventions. • Increase quantum of restored/re-designed.	• Internal monitoring.
Land use	LU1	Minimize effects on other land use activities/objectives and promote sustainable land use.	• Level of compliance with land use planning policy and objectives • Quantum of forest managed for nature. • Quantum of peatland restored/re-designed.	• Compliance with land use planning policy and objectives. • Increase quantum of forest managed for nature.	• Internal monitoring of compliance with land use planning policy and objectives



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			Quantum of afforestation.	- Increase quantum of peatland restored/re-designed. - Increase afforestation levels.	Internal monitoring of sustainable land use-related objectives.
Air Quality and Noise	AQN1	Minimize effects on local air quality.	- Number of developments consented that result in avoidable significant adverse air quality impacts on sensitive receptors. - Number of exceedances of ambient air quality standards due to development or operations supported by the Plan. - Number of valid complaints received from members of the public regarding air quality impacts (e.g., dust).	- No development significant adverse air quality impacts on sensitive receptors. - No exceedances of ambient air quality standard exceedances due to development or operations supported by the Plan. - Avoid/minimise valid complaints received from members of the public regarding air quality impacts (e.g., dust).	- Internal monitoring of environmental effects of proposed development projects (during the development planning process). - Internal monitoring of forestry operations. - Monitoring of complaints. - Consultation with the EPA and DAERA, as necessary.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	AQN2	Minimise adverse noise impacts on sensitive receptors.	- Number of sensitive receptors exposed to noise nuisance. - Number of valid noise complaints.	- No sensitive receptors exposed to nuisance noise. - Minimise valid noise complaints.	- Internal monitoring of likely, significant environmental effects of proposed development projects (during the development planning process). - Internal monitoring of forestry operations. - Monitoring of complaints. - Consultation with the EPA and DAERA, as necessary.
Water	W1	Maintain and/or improve, the quality and status of surface water bodies, in line with Water Framework Directive requirements.	- Number of surface water pollution incidents as a result of development or operations supported by the plan. - Surface Water Body Status in Ireland and Northern Ireland, as reported by the EPA and DAERA respectively.	- No surface water pollution incidents as a result of development or operations supported by the plan. - Not to cause deterioration in the status of any water or affect the ability of any water to achieve 'good status.'	- Internal monitoring of environmental effects of proposed development projects (during the development planning process) and operations. - WFD Monitoring Programmes for Ireland and Northern Ireland. - Consultation with the EPA and DAERA, as necessary.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	W2	Maintain and/or improve, the chemical and quantitative status of groundwaters, in line with Water Framework Directive requirements.	- Number of groundwater pollution incidents as a result of development or operations supported by the plan. - Groundwater Body Status in Ireland and Northern Ireland, as reported by the EPA and DAERA respectively.	- No groundwater pollution incidents as a result of development or operations supported by the plan. - No deterioration in the status of groundwater quality, having appropriate regard to relevant Groundwater Quality Standards.	- Internal monitoring of environmental effects of proposed development projects (during the development planning process) and operations. - WFD Monitoring Programmes for Ireland and Northern Ireland. - Consultation with the EPA and DAERA, as necessary.
	W3	Comply as appropriate with the provisions of the Flood Risk Management Guidelines.	Number of developments that fail to comply with the provision of the Flood Risk Management Guidelines.	No developments fail to comply with the provision of the Flood Risk Management Guidelines.	Internal monitoring of environmental effects of proposed development projects (during the development planning process).
	W4	Promote sustainable drainage practices to improve water quality and flow.	Number of sustainable drainage interventions that contribute to improved water quality and flow.	Increase number of sustainable drainage interventions that contribute to improved water quality and flow.	Internal monitoring of environmental effects of proposed development projects (during the development planning process).



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			Number of developments consented that have sustainable drainage proposals.	Increase number of developments consented that have sustainable drainage proposals.	
	W5	Prevent impacts upon drinking water quality.	- Number of non-compliances with Drinking Water Quality Standards defined in the European Union (Drinking Water) Regulations 2023. - Number of contributions to non-compliances with the Water Supply (Water Quality) Regulations (Northern Ireland) 2017.	- No non-compliances with Drinking Water Quality Standards defined in the European Union (Drinking Water) Regulations 2023. - No contributions to non-compliances with the Water Supply (Water Quality) Regulations (Northern Ireland) 2017.	- EPA Drinking Water Quality Reports. - Review of environmental quality data detailed in the EPA Maps Application. - Review of DAERA Drinking Water Quality Reports. - Review of EPA Remedial Action List.
	W6	Prevent impacts upon the status of transitional, coastal and marine waters in line with the requirements of the WFD, the MSFD and Northern Ireland's Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.	- Number of pollution incidents affecting transitional, coastal and marine waters as a result of development or operations supported by the plan. - Status of transitional, coastal and marine waters.	No pollution incidents affecting transitional, coastal and marine water as a result of development or operations supported by the plan.	- EPA environmental monitoring data. - DAERA environmental monitoring data.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
				Not to cause deterioration in the status of any transitional, coastal or marine waters or affect the ability of any water to achieve 'good status.'	
	W7	Maintain and/or improve bathing water quality.	- Number of pollution incidents affecting bathing waters as a result of development or operations supported by the plan. - Status of bathing waters.	- No pollution incidents affecting bathing waters as a result of development or operations supported by the plan. - Not to cause deterioration in the status of any bathing waters or affect the ability of any water to achieve 'good status.'	- EPA environmental monitoring data. - DAERA environmental monitoring data.
Material Assets & Infrastructure	MA1	Minimise effects on or conflicts with local, regional and national material assets and infrastructure, including future, planned infrastructure.	Instances of inappropriate development or operations on wayleaves for the development or maintenance of material assets.	No instances of inappropriate development or operations on wayleaves for the development or maintenance of material assets (unless otherwise agreed with a third-party).	Internal monitoring of environmental effects of proposed development projects (during the development planning process) and operations.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			Number of inappropriate developments impinging on existing or future material assets.	No inappropriate developments impinging on existing or future material assets.	Consultation with ESB Networks, Gas Networks Ireland, National Broadband Ireland and the ESB.
	MA2	Promote sustainable travel and transport	Number of sustainable travel and transport initiatives integrated into visitor destination developments.	Increase number of sustainable travel and transport initiatives integrated into visitor destination developments.	Internal monitoring.
	MA3	Promote the effective and sustainable use of forest products.	Quantum of sustainable timber products supplied to the Irish market.	Increase quantum of sustainable, high-quality timber products supplied to the Irish market.	Internal monitoring.
	MA4	Enable the delivery of renewable energy projects for the benefit of national energy demands - through its joint venture FuturEnergy Ireland and via land agreements with other renewable energy developers.	- Number of renewable energy projects enabled by the Coillte estate. - Total energy output from renewable energy development on the Coillte estate.	- Number of renewable energy projects enabled by the Coillte estate. - Increase total energy output from renewable energy development on the Coillte estate.	Internal monitoring.
	MA5	Promote sustainable waste/material management and the circular economy.	Number of developments that have sustainable material reuse proposals.	Increase number of developments that have sustainable reuse proposals for	Internal monitoring of proposed development projects (during the



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			- Quantum of sustainable timber products supplied to the Irish market. - Organisational waste levels.	material generated during construction. - Increase quantum of sustainable timber products supplied to the Irish market. - Reduce organisational waste levels.	development planning process). Internal monitoring.
Tourism & Recreation	TR1	Minimise adverse effects upon tourism and recreation amenities, and enhance tourism and recreation, where possible.	Minimise adverse effects upon tourism and recreation amenities, and enhance tourism and recreation, where possible.	- Number of instances of significant adverse impacts on tourism and recreation amenities due to development or operations. - Number/quantum of areas for amenity and recreational use on the Coillte estate. - Number of people utilising the Coillte estate for amenity and recreation purposes.	- No instances of significant adverse impacts on tourism and recreation amenities due to development or operations. - Increase the number/quantum of areas for amenity and recreational use on the Coillte estate. - Increase the number of people utilising the Coillte estate for amenity and recreation purposes.
Climate Change	CC1	Contribute towards the reduction of greenhouse gas emissions and the delivery of renewable energy projects in line with national objectives and targets.	- Level of organisational Greenhouse Gas (GHG) emissions. - Energy usage. - LULUCF sector GHG emissions.	- Reduce organisational GHG emissions. - Reduce energy usage. - Contribute to reduced LULUCF sector GHG emissions.	- Internal GHG accounting and monitoring. - EPA National Emission Inventory.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
			- Energy sector GHG emissions. - Total energy output from renewable energy development on the Coillte estate.	- Contribute to reduced Energy sector GHG emissions. - Increase total energy output from renewable energy development on the Coillte estate.	Baseline Emission Inventories for Local Authority functional areas.
	CC2	Promote carbon sequestration in line with national objectives and targets.	- Level of organisational Greenhouse Gas (GHG) emissions. - LULUCF GHG emissions. - Quantum of peatland restored/re-designed.	- Reduce organisational GHG emissions. - Contribute to reduced LULUCF GHG emissions. - Increase quantum of peatland restored/re-designed.	- Internal GHG accounting and monitoring. - EPA National Emission Inventory. - Baseline Emission Inventories for Local Authority functional areas.
	CC3	Reduce greenhouse gas emissions from forestry related transport operations.	- Quantum of fossil fuel use and related GHG emissions. - Number of alternative fuel related initiatives.	- Fossil fuel use and related GHG emissions line with national climate objectives. - Increase number of alternative fuel related initiatives.	Internal accounting and monitoring.



Environmental Component	SEO Code	Strategic Environmental Objective	Indicators	Targets	Data Sources
	CC4	Integrate sustainable and low/zero carbon design solutions into Coillte development projects, where possible.	Number of sustainable and low/zero carbon design solutions integrated into Coillte development projects.	Increase number of sustainable and low/zero carbon design solutions integrated into Coillte development projects.	Internal monitoring of likely, significant environmental effects of proposed development projects (during the development planning process) and operations.
	CC5	Contribute to sectoral adaptation to the effects of climate change.	- Quantum of forest managed for nature. - Quantum of peatland restored/re-designed. - Quantum of afforestation.	- Increase quantum of forest managed for nature. - Increase quantum of peatland restored/re-designed. - Increase afforestation levels.	Internal monitoring of sustainable land use-related objectives.
	CC7	Consider and appropriately manage the effects of climate change during development and forest planning processes.	- Climate resilience measures adopted. - Consideration of climate factors when designing and planning built development.	- Climate resilience measures adopted at all forest sites. - damage, wind blow or wildfire. - Climate factors to be considered when designing and planning all built development, in line with relevant design/planning standards	Internal monitoring.