

Kildare County Council
**Draft Kildare County
Development Plan 2023-2029**
SEA Environmental Report

Ref 1

Issue | 10 March 2022

This report takes into account the particular instructions and requirements of our client.

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1 Introduction

1.1 Background

Kildare County Council (KCC) has prepared the draft Kildare County Development Plan (referred to hereinafter as the ‘draft Plan’ or the ‘draft CDP’) for the period 2023-2029. The draft CDP sets out the strategic land use and planning policy guidance for Kildare for the six-year period between 2023-2029. Arup has been appointed by KCC to prepare the relevant Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) documentation, relative to the draft Plan, which will allow KCC, as the competent authority, to undertake SEA and AA of the draft Plan.

This SEA Environmental Report (ER) presents the findings of the environmental assessment of the likely significant effects on the environment as a result of implementing the CDP. A Scoping Report was prepared which provided information to allow consultation with defined statutory bodies on the scope and level of detail to be considered in the environmental assessment. The purpose of this SEA ER – which should be read in conjunction with the CDP – is to provide a clear understanding of the likely environmental consequences of decisions arising from the draft CDP.

1.2 SEA Process and Legislative Context

1.2.1 Legislative Background

Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment, (also known as the Strategic Environmental Assessment Directive), was transposed into Irish Law by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended by S.I. No 200 of 2011. It provided a statutory basis for the making of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004) as amended by S.I. No. 201 of 2011. These Planning and Development Regulations, S.I. No. 436 of 2004 and S.I. No. 201 of 2011, amended articles and schedules to the Planning and Development Regulations, (S.I. 600 of 2001). Under the Directive (2001/42/EC) SEA is required on plans and programmes which are likely to have significant effects on the environment, in the following eleven sectors:

- Agriculture;
- Forestry;
- Fisheries;
- Energy;
- Transport;
- Industry;

- Water Management;
- Waste Management;
- Telecommunications; and
- Tourism, Town and Country Planning or Land-use.

The objectives 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’ (Article 1 SEA Directive). It is a systematic, on-going process for evaluating, at the earliest possible stage, the environmental quality and consequences of implementing certain plans and programmes on the environment. The requirements for SEA in Ireland are set out in the national legislation as follows:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No. 435 of 2004) as amended by European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations (S.I. No. 200 of 2011); and
- Planning and Development (Strategic Environmental Assessment) Regulations (S.I. No. 436 of 2004) as amended by the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations (S.I. No. 201 of 2011)

1.2.2 SEA Process

The SEA process is comprised of the following steps:

- Screening: Decision on whether or not SEA of a Plan or Programme is required. This stage has been completed;
- Scoping: Consultation with the defined statutory bodies on the scope and level of detail to be considered in the assessment;
- Environmental Assessment: An assessment of the likely significant impacts on the environment as a result of the Plan or Programme. This is the current stage of the SEA process to which this report relates;
- Preparation of an Environmental Report (this report);
- Consultation on the Plan or Programme and associated Environmental Report;
- Evaluation of the submissions and observations made on the Plan or Programme and Environmental Report; and
- Issuance of an SEA Statement identifying how environmental considerations and consultation have been integrated into the Final Plan or Programme.

SEA is intended to inform decision-making and needs to ‘test’ systematically the performance of the plan as a whole and its individual objectives and policies against SEA criteria. It is noted that under EIA and Planning and Development legislation, certain projects taking place within the plan area arising during implementation of the Plan may require an Environmental Impact Assessment.

1.2.3 SEA Guidance

The SEA methodology for the draft CDP is based on legislative requirements and Department of Environment, Community and Local Government (DoECLG) / Environmental Protection Agency (EPA) guidance. The EPA's SEA Pack (Version 21/02/2020) was also used as a source of information during the scoping process along with published EPA SEA Scoping Guidance (EPA, 2022).

Further Guidance taken into account in this assessment includes:

- Strategic Environmental Assessment – Draft Guidelines for Regional Assemblies and Planning Authorities (DHLGH, 2021).
- Circular Letter PSSP 6/2011: Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA) (DECLG, 2013a).
- Circular Letter PL 9/2013: Article 8 (Decision Making) of EU Directives 2001/42/EC on Strategic Environmental Assessment (SEA) as amended (DECLG, 2013b).
- Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment (DEHLG, 2004).
- Directive 2001/42/EC on the assessment of Certain Plans and Programmes on the Environment (EC, 2001).
- SEA Process Checklist (EPA, 2008).
- Guidance on Implementation of Directive 2001/42/EC (EC, 2004).
- SEA Resource Manual for Local and Regional Planning Authorities (Updated 2015) (EPA, 2013a).
- Developing and Assessing Alternatives in Strategic Environmental Assessment - Good Practice Guidance (EPA, 2015).
- Ireland's Environment - An Integrated Assessment 2020 (EPA, 2020a).
- Guidance on Strategic Environmental Assessment Statements and Monitoring (EPA, 2020b).
- Good practice guidance on Cumulative Effects Assessment in SEA (EPA, 2020c).
- Second Review of SEA Effectiveness in Ireland (EPA, 2020d).
- EPA guidance on Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes Best Practice Guidance (EPA, 2013b).
- Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland (EPA, 2019).

2 Draft Kildare County Development Plan

2.1 Introduction

The draft Kildare CDP 2023-2029 is the key strategy document which structures the proper planning and sustainable development of land-use across County Kildare over the six-year statutory time period of the plan. The draft Plan seeks to address the physical, economic, social and environmental needs of the community, in terms of supporting structured new development, protecting the environment, enhancing valued assets and amenities. The preparation of the draft Plan has regard to key recent development trends and national, regional and local policy documents, in particular, the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy for the Eastern Midland Region (RSES) (Ireland, 2019a); (Assembly, 2019).

The draft Plan relates to the whole functional area of Kildare County Council which includes the five Municipal Districts as follows:

- Naas Municipal District
- Clane - Maynooth Municipal District
- Athy Municipal District
- Celbridge-Leixlip Municipal District
- Kildare-Newbridge Municipal District

2.2 Background to the Draft County Development Plan 2023-2029

The existing CDP for Kildare is the Kildare CDP 2017-2023 (KCC, 2022). The new (currently draft) CDP prepared by KCC will be implemented from 2023-2029 and will set out a vision for the future planning and sustainable development of County Kildare to 2029 and beyond. The review has come at a time of significant and unprecedented challenges arising from the impacts of the Covid-19 pandemic, Brexit and Climate Change. It is essential that the draft CDP responds to these challenges and identifies opportunities to support economic recovery and improve quality of life for the people of County Kildare.

Kildare is an inland county covering an area of 169,550 hectares. It occupies a strategic position within the Eastern Region of the Eastern and Midland Regional Assembly and also forms part of the Greater Dublin Area (GDA). Kildare is both a significant population base and a significant residential base within the State with the eighth largest household stock nationally. The county has grown more than 71% in the last 20 years, the updated development plan must therefore, facilitate the large growth rates predicted for the coming six-year period (CSO, 2016).

KCC has prepared the draft Kildare CDP 2023-2029 which takes into account all submissions made on the draft CDP, including all recommendations from the Office of the Planning Regulator, NTA and TII. The draft CDP has been prepared in full compliance with the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region (Assembly, 2019).

2.3 Composition of the Draft County Development Plan

2.3.1 Overview

The draft Plan consists of a written statement indicating the development objectives for the county. The written statement is accompanied by a number of Volumes and supporting Appendices.

2.3.2 Volume 1-Written Statement

The Written Statement constitutes the main body of the document which comprises the Vision, Core Strategy, development management standards and the overarching policies and objectives of the draft Plan.

Chapter 1	Introduction
Chapter 2	Core Strategy and Settlement Hierarchy.
Chapter 3	Housing
Chapter 4	Resilient Economy & Job Creation
Chapter 5	Sustainable Mobility & Transport
Chapter 6	Infrastructure & Environmental Services
Chapter 7	Energy & Communications
Chapter 8	Retail
Chapter 9	Our Rural Economy
Chapter 10	Community Infrastructure & Creative Places
Chapter 11	Built & Cultural Heritage
Chapter 12	Biodiversity & Green Infrastructure
Chapter 13	Landscape, Recreation & Amenity
Chapter 14	Urban Design, Placemaking & Regeneration
Chapter 15	Development Management Standards
Chapter 16	Implementation & Monitoring
Chapter 17	Infrastructural Assessment Report

2.3.3 Volume 2- Small Towns and Villages Strategy

The Small Towns and Villages Strategy (STVS) provides a coherent planning framework for the small towns, villages and rural settlements across the county. The Strategy includes land use zonings maps and specific objectives which are underpinned. When zoning land within the settlements, due regard was had particularly to NPO 18b of the National Planning Framework in identifying serviced sites in order to promote compact growth and to alleviate further pressure on the rural areas of Kildare for one-off housing

2.3.4 Volume 3- Environmental Assessments

This SEA ER will form part of Volume 3 of the draft CDP, in addition to the relevant Appropriate Assessment and a Strategic Flood Risk assessment documentation.

2.3.5 Appendices

The draft Plan is also supported by a number of evidence-based supporting documents which provide the background work for the formulation of policies and objectives of the draft Plan. The Appendices are as follows:

- Appendix 1 Housing Need Demand Assessment and Housing Strategy
- Appendix 2 Wind Energy Strategy
- Appendix 3 Open Space & Outdoor Recreation Strategy
- Appendix 4 Rural House Design Guide
- Appendix 5 Record of Monuments and Places (RMP)
- Appendix 6 Record of Protected Structures (RPS)
- Appendix 7 Scenic Routes
- Appendix 8 Statement of Compliance with Section 28 Guidelines.
- Appendix 9 Core Strategy Methodology
- Appendix 10 Rural Housing Policy Report – AIRO
- Appendix 11 Single Rural Dwelling Density Toolkit
- Appendix 12 Implementation & Monitoring Framework

2.4 Strategic Vision of the Draft County Development Plan

The draft Plan is underpinned by a strategic vision which is intended to guide the future of the county in a sustainable manner in a way that reflects the existing character and amenities of the county, the surrounding landscape, heritage and environment and improves the quality of life for the existing and future community.

2.5 Overarching Guiding Principles of the Draft CDP

The draft CDP addresses a wide range of interrelated economic, social and environmental issues set within an overall framework of achieving the overall vision. The following will be the guiding principles underpinning the various policies, objectives, actions and targets associated with the draft CDP:

- (i) Ensuring the compact growth and regeneration of lands within all settlements across the Settlement Hierarchy.
- (ii) Promoting the sustainable development of communities by locating residential, employment, social and community facilities in close proximity to each other.
- (iii) Supporting national investment in public transport services to achieve the better integration of land uses and high-quality public transport provision and to reduce car dependency throughout the county;
- (iv) Achieving a quantum of services and infrastructure in all settlements to match existing and future population demands.
- (v) Promoting economic development and employment opportunities within defined Strategic Employment Development Areas in the North-West corridor of the Metropolitan Area, in line with the overall Growth Strategy.
- (vi) Recognising the role of the rural countryside in supporting the rural economy and its role as a key resource for agriculture, equine, bloodstock, forestry, energy production, tourism, recreation, mineral extraction and rural based enterprises.
- (vii) Supporting, facilitating and promoting the sustainable development of renewable energy sources in the county.
- (viii) Protecting local assets by preserving the quality of the landscape, open space, recreational resources, natural, architectural, archaeological and cultural heritage and the material assets of the county.
- (ix) Promoting social inclusion and facilitating the delivery of objectives contained in the Kildare Local Economic and Community Plan (LECP) 2016-2021 and any succeeding Plan.

2.6 Alternatives

The SEA Directive requires that reasonable alternatives be assessed in order to demonstrate how the preferred strategy performs against other forms of action. Alternatives must be developed, described and assessed within the SEA process, with the results presented in the Environmental Report. Alternatives are assessed as part of the plan development process and discussed in **Section 7** of this ER.

2.7 Extent of Plan Area

The extent of the plan area is shown in **Figure A1** included in **Appendix A**.

3 Relationship with Other Relevant Plans and Programmes

3.1 Introduction

As part of the SEA process the context of the draft CDP must be established with regard to other plans and programmes that have been adopted at international, national, regional and local level. Specifically, the interaction of the draft CDP with the environmental protection objectives and standards included within these other plans and programmes must be considered.

A wide range of legislation, plans and programmes are of relevance to the draft CDP and are outlined in **Section 3.2, Table 3.2.1**.

3.2 Relevant Plans and Programmes

Table 3.2.1 Relevant Plans and Programmes

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
International Plans, Policy and Programmes		
EU Green Infrastructure Strategy	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
UNESCO (1972) The Convention for the Protection of the World Cultural and Natural Heritage	links concepts of nature conservation and the preservation of cultural properties; and recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
UN (1992) The Convention on Biological Diversity	An overall objective is to develop national strategies for the conservation and sustainable use of biological diversity.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
		framework for environmental protection and management.
Paris climate conference (COP21) 2015 (Paris Agreement)	<p>At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal.</p> <p>The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.</p>	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
EU 2030 Framework for Climate and Energy	<p>A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries.</p> <p>Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.</p>	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Convention of the Protection of the Architectural Heritage of Europe (Granada 1995)	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats)	The convention has three main aims: to conserve wild flora and fauna and their natural habitats to promote cooperation between states to give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
EU Common Agricultural Policy	To improve agricultural productivity, so that consumers have a stable supply of affordable food; and to ensure that EU farmers can make a reasonable living.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
European 2020 Strategy for Growth	Europe 2020 sets out a vision of Europe's social market economy for the 21st century and puts forward three mutually reinforcing priorities: Smart growth: developing an economy based on knowledge and innovation. Sustainable growth: promoting a more resource efficient, greener and more competitive economy. Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
The European Green Deal (EGD) 2020	The deal sets out how to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people's quality of life, caring for nature and leaving no one behind.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
EU (2020) Biodiversity Strategy	A long-term plan for protecting nature and reversing the degradation of ecosystems across the European Union.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
EU (2018) Clean Air Policy Package	Aims to substantially reduce air pollution across the EU.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Plans, Programmes and Policy		
Ireland 2040 - Our Plan, the National Planning Framework and the National Development Plan (2018-2027)	The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. The National Development Plan sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The CDP aligns with the provisions of the NPF and NDP

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
	next two decades, to cater for an expected population increase of over 1 million people.	
Planning, Land Use and Transport Outlook 2040 [in preparation]	The Planning, Land Use and Transport Outlook will take account of forecasted future economic and demographic scenarios, affordability considerations and relevant Government policies and will: Quantify in broad terms the appropriate scale of financial investment in land transport over the long term; Consider how fiscal, environmental and technological developments might impact on this investment; and, Identify strategic priorities for future investment to ensure land transport infrastructure provision facilitates the objectives of Project Ireland 2040.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Climate Action and Low Carbon Development Act 2021	An Act to provide for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Draft Clean Air Strategy for Ireland	The Clean Air Strategy will provide the strategic policy framework necessary to identify and promote integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Water Resources Plan	The NWRP is a plan on how to provide a safe, secure and reliable water supply to customers for the next 25 years, without causing adverse impact on the environment. The objective of the NWRP is to set out how we intend to maintain the supply and demand for drinking water over the short, medium and long term whilst minimising the impact on the environment.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
National Landscape Strategy for Ireland 2015-2025	The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions. Landscape Strategy Vision: “Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning.”	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Ireland’s National Waste Policy 2020 – 2025	The Policy sets out new targets to tackle waste and move towards a circular economy. To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste. To strive for increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export. To minimise the environmental, health, social and economic impacts of hazardous waste generation and management.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Adaptation Framework (NAF) 2018 and associated regional, local and sectoral adaptation plans	NAF specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Energy & Climate Plan (NECP) 2021 – 2030	Ireland’s National Energy & Climate Plan (NECP) 2021-2030 takes into account energy and climate policies developed up to 2019, the levels of demographic and economic growth identified in the National Planning Framework - Project 2040 and includes all of the climate and energy measures as set out in the National Development Plan 2018- 2027.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
National Air Pollution Control Programme (DCCA, 2019)	The National Air Pollution Control Programme (NAPCP) is the main governance instrument by which EU Member States must ensure that the emission reduction commitments for 2020-2029 and 2030 onwards are met. The first NAPCPs were due by 1 April 2019. This was the first iteration of the NAPCP report for Ireland, which comes under Article 6(10) of Directive (EU) 2016/2284. The NAPCP reports on both air quality and air pollution emissions of NO _x , SO _x , NMVOC, NH ₃ , and PM _{2.5} . The NAPCP is to be submitted every fourth year.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan (2014-2016)	This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Food Wise 2025	Food Wise 2025 a roadmap for the Irish food industry, as it seeks to innovate and expand in response to increased global demand for quality foods. It sets out a vision for the potential growth in agricultural output after the removal of milk quotas.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Food Vision 2030	Food Vision 2030 is a roadmap for the Irish food industry. It sets out four high-level missions to fulfil this ambition: <ul style="list-style-type: none"> • A climate-smart, environmentally sustainable agri-food sector. • Viable and resilient primary producers, with enhanced wellbeing • Food that is safe, nutritious and appealing, trusted and valued at home and abroad • An innovative, competitive and resilient sector, driven by technology and talent. 	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Rural Development Programme	The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
Our Rural Future: Rural Development Policy 2021-2025	'Our Rural Future' provides a framework for the development of rural Ireland over the next five years. The Framework acknowledges that the country is heading into an era of unprecedented change as we recover from the impact of COVID-19, as we adapt to new ways of working, as the impact of Brexit presents itself and as we transition to a climate-neutral society. This change is considered a significant opportunity for rural areas.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Realising our Rural Potential: The Action Plan for Rural Development	The Plan aims to unlock the potential of rural Ireland through a framework of supports at national and local level which will ensure that people who live in rural areas have increased opportunities for employment locally, and access to public services and social networks that support a high quality of life.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Forestry Programme (2014-2020)	Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
River Basin Management Plan	The River Basin Management Plan sets out the measures planned to maintain and improve the status of waters.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
National Peatlands Strategy (2015-2025)	This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme	The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
Ag Climatise: A Roadmap Towards Climate Neutrality	It is a roadmap designed to help all stakeholders to work together to tackle climate change and air pollution, by clearly explaining what we need to do and when we need to do it. By collectively pooling expertise and energy we can determine how best to do it, ensuring our sector remains at the forefront of globally sustainable food production systems.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Draft Renewable Electricity Development Framework (DCCA) 2016	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Tourism Policy Statement: People, Place and Policy – Growing Tourism to 2025	The main goal of this policy statement is to have a vibrant, attractive tourism sector that makes a significant contribution to employment across the country; is economically, socially and environmentally sustainable; helps promote a positive image of Ireland overseas and is a sector in which people want to work.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Eastern and Midland Regional Economic and Spatial Strategy 2019-2031	The Regional Spatial and Economic Strategy provides a long-term strategic planning and economic framework for the Eastern and Midland Region in order to support the implementation of the National Planning Framework.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Integrated Implementation Plan 2019-2024	The Transport Strategy for the Greater Dublin Area 2016-2035, which established an overall framework for transport investment over the next two decades and was subject to full SEA and Stage 2 AA, is a key policy shaping the six-year Integrated Infrastructure Plan. The priorities in the Integrated Infrastructure Plan align with the objectives and priorities set out in the Transport Strategy, focused on improving public and sustainable transport.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
Groundwater Protection Schemes	A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Land Use Plans (including Local Area Plans and Planning Schemes) in force within County Kildare and in other adjoining planning authorities	Outline planning objectives for land use development. Strategic framework for planning and sustainable development including those set out in National Planning Framework and Eastern and Midland Regional Economic and Spatial Strategy. Set out the policies and proposals to guide development in the relevant area.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Fáilte Ireland Tourism plans, strategies, including those relating to the Ireland's Ancient East and Dublin: A Breath of Fresh Air/Come Here To Me Dublin brands	Fáilte Ireland's work includes preparing various plans and strategies for Ireland's Ancient East and other brands and initiatives. These plans are subject to their own environmental assessment processes and any project arising is required to be consistent with and conform with the provisions of all adopted/approved Statutory Policies, Strategies, Plans and Programmes, including provisions for the protection and management of the environment.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
County Kildare Biodiversity and Heritage Plans	The County Kildare Heritage Plan provides one framework through which the Council works actively with other partner organisations on initiatives to further our understanding, protection and appreciation of Kildare's natural heritage resource. The current County Kildare Biodiversity Action Plan 2009 – 2014 sets out a strategy for increasing our understanding and appreciation of biodiversity in the County along with measures for enhancing the protection of this valuable resource	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Local Economic and Community Plan for County Kildare 2016-2021	The LECP is to set out, for a six-year period, the objectives and actions needed to promote and support the economic development and the local and community development of the local authority area, both by itself directly and in partnership with other economic and community development stakeholders. The LECP and development plan are closely linked. The LECP must be consistent with the Core Strategy of the	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme or Policy	Plan Programme or Policy Objectives	Relevance of Plan, Programme or Policy to the Draft CDP
	development plan and the development plan will need to underpin the aims of the LECP where there are 'land use' or 'development' related objectives contained in the LECP. The development plan gives effect to the objectives of the LECP.	
Climate Action Plan 2021	The Climate Action Plan 2021 provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2021. The Plan lists the actions needed to deliver on our climate targets and sets indicative ranges of emissions reductions for each sector of the economy. It will be updated annually, including in 2022, to ensure alignment with our legally binding economy-wide carbon budgets and sectoral ceilings.	Implementation of the Draft CDP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

4 SEA Methodology

4.1 Introduction

This section highlights how the SEA has been undertaken for the draft CDP. The SEA methodology is based on legislative requirements and relevant Environmental Protection Agency (EPA) guidance and will ensure compliance with the SEA Directive and associated legislation. The EPA's SEA Pack (Version 18/02/2020) was also used as a source of information during the scoping process (EPA, 2020e).

The draft CDP (KCC), the SEA Environmental Report and the Appropriate Assessment (Arup) were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others. To facilitate this iterative approach, numerous discussions were held between KCC and Arup.

The key stages outlined in **Figure 4.1.1** were identified and are discussed in the following sections.

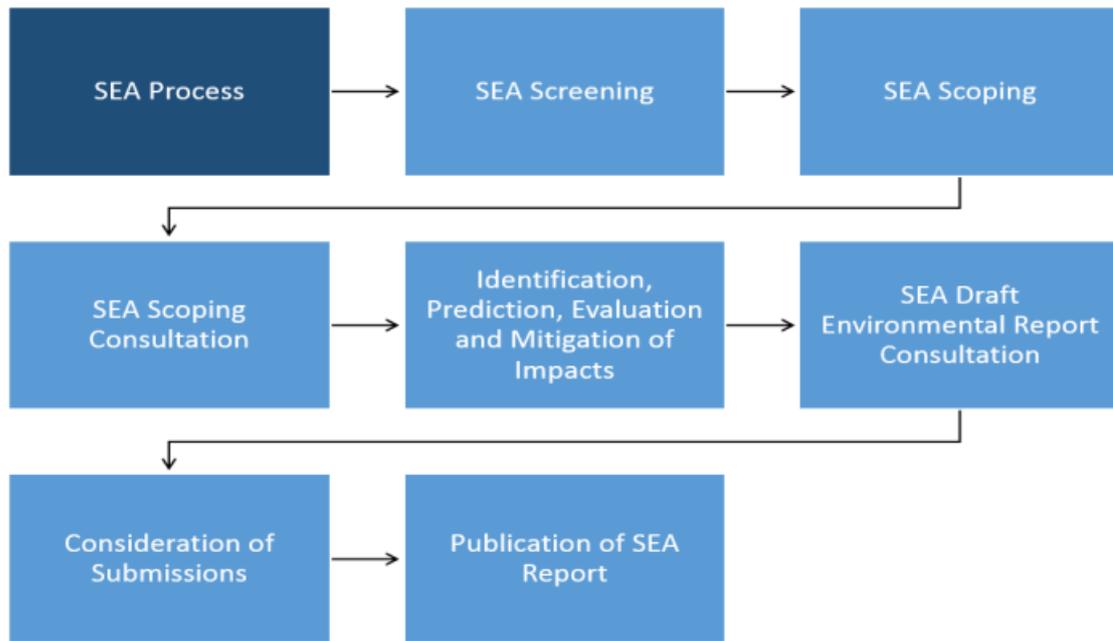


Figure 4.1.1 Key Stages of the SEA Process

4.2 Screening

Screening is the process for deciding whether a particular plan would warrant SEA at the earliest possible opportunity, it also facilitates the assessment findings so that they can be factored into the plan development process.

Screening in the case of the draft Kildare CDP was not required as SEA is mandatory with any CDP produced.

4.3 Scoping

The main objective of the Scoping Stage is to identify the key environmental issues that may arise as a result of the draft CDP, so they may be addressed appropriately in the ER. There are a number of tasks at this stage:

- Determine the key elements of the draft CDP to be assessed;
- Determine the environmental issues to be assessed;
- Collect and report on relevant international, national and local plans, objectives and environmental standards that may influence or impact on the draft CDP;
- Develop draft environmental objectives, indicators and targets to allow the evaluation of impacts; and
- Identify reasonable alternative means of achieving the strategic goals of the draft CDP.

A Scoping Report was prepared in January 2021 in relation to the draft CDP, which provided information to allow consultation with defined statutory bodies on

the scope and level of detail to be considered in the environmental assessment. The draft CDP was issued to the statutory consultees, and the consultees were given a period of four weeks to respond with any observations or submissions on the content of the SEA Scoping Report. Responses received are provided in **Table 4.1.1.**

Table 4.1.1 Scoping responses

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
Department of the Environment, Climate and Communications – Geological Survey Ireland	<ul style="list-style-type: none"> ● Geoheritage: In the Kildare County Geological Sites (CGSs) within the SEA Scoping document in Table 4.7 and as a map in Figure 4.4. CGS ‘Rathcore Spring’ has been omitted and we would like to see this CGS included within the listing in the new CDP (2023-2029). ● Encouraged the inclusion of specific policy objectives relating to the County Geological Sites (CGSs) within the CDP and suggest the following wording as an example: "to protect from inappropriate development the scheduled list of geological heritage sites [Appendix X]." Or "to protect from inappropriate development the following list of County Geological Sites" ● Listing CGSs in the CDP provides protection of the sites against potentially damaging developments that normally require planning permission, such as building, quarrying, landfilling or forestry. In many cases CGSs are also sites of high amenity or educational value, already zoned or listed in the CDP. ● Recommend using Geological Survey Ireland’s datasets that include Bedrock Geology, Quaternary Geology, Geological Heritage Sites, Mineral deposits, Groundwater Resources, Geohazards and the Irish Seabed, mapping when undergoing the EIAR, planning and scoping processes. ● Geological Survey Ireland should be referenced to as such and should any data or geological maps be used; they should be attributed correctly to Geological Survey Ireland. ● Noted the democratic process of public consultation and approval by councillors of the CDP means that stakeholders in the CGSs and all of the local community can buy into the process. ● CGSs adopted in the National Heritage Plan, will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures. Noted that management issues for the majority of geological heritage sites may differ from ecological sites, and in some cases, development may facilitate enhanced geological understanding of a site by exposing more rock sections - for example, in a quarry extension. 	<ul style="list-style-type: none"> ● CGS ‘Rathcore Spring’ has been noted in the SEA. ● The inclusion of specific policy objectives relating to the County Geological Sites (CGSs) has been noted ● GSI’s datasets will be utilised and referenced as such in the SEA. ● Consultation has taken place at the earliest stages to identify any issues relevant to an individual site or proposed development in scoping reports for this SEA. ● GSI’s Groundwater programme run GW Climate has been reviewed, ● Use of the Geological Survey Ireland’s online mapping data sets for Landslide Events and Landslide Susceptibility have been reviewed ● The GSI’s Geothermal Suitability maps and documents have been reviewed ● GSI’s Map Viewer has been reviewed

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	<ul style="list-style-type: none"> • Noted consultation at the earliest stages can identify any issues relevant to an individual site or proposed development. • Noted County Geological Sites are the optimal way of addressing the responsibility of each authority under the Planning and Development Act 2000 and its amendments, to protect sites of geological interest. • Noted it would be necessary to include a policy objective to protect geological NHAs as they become designated and notified to the Local Authority, during the lifetime of the Plan. • Culture and Tourism: Encouraged Kildare County Council to continue the trend of using geology as a large part of Irish tourism, for example: UNESCO Global Geoparks, the Wild Atlantic Way, Irelands Ancient East, and Irelands Hidden Heartlands. • Also encouraged using the geological audit information making it easily available to the general public, to make geology a significant part of any tourism initiative that may be introduced. • Geological Mapping: Pleased to see use of Bedrock geology map within the SEA scoping report. • Recommended to use the GSI’s online data sets of bedrock and subsoils geological mapping that is reliable and accessible. Including depth to bedrock data and subsoil classifications, it is encouraged to use this data in any planned SEA reports and for informing your County Development Plan (2023-2029). • Groundwater: Commended the use of groundwater online mapping data in Figure 4.8 showing karst features, wells, springs and Public Supply Source Protection Zones and in Figure 4.9 Groundwater Vulnerability in the SEA Scoping document. • Useful data may be found in relation to Flood Risk Assessment (FRA) and management plans. Within GSI’s Groundwater programme run GW Climate. • Geohazards: Noted in Section 4.4.2.2 Climate Change, mention of rainfall events which can have detrimental effects for slope stability and recommended for consideration of use of Geological Survey Ireland’s online mapping data sets for Landslide Events and Landslide Susceptibility. 	

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	<ul style="list-style-type: none"> • Geothermal Energy: The GSI's Geothermal Suitability maps and documents could also be considered in Section 5.2 Draft Objectives and Targets as part of the renewable energy potential under the Climate and Resilience heading. • Natural Resources (Minerals/Aggregates): The Active Quarries, Mineral Localities and the Aggregate Potential maps available on GSI's Map Viewer are welcomed as consideration of aggregate potential sterilisation included as part of the planned SEA report. 	
EPA	<ul style="list-style-type: none"> • The thirteen Key Messages for Ireland within the Environment Report <i>Ireland's Environment - An Assessment 2020</i> (EPA, 2020) and the UN Sustainable Development Goals (SDGs) should be taken into account in preparing the Plan and SEA and reflected in the principles/objectives/measures in the Plan • Community Engagement: Recommended in preparing the Plan and carrying out the SEA (including developing alternatives), the need to proactively engage local communities should be a core consideration. • Critical service infrastructure: In proposing and in implementing the Plan, it was noted to ensure that the Plan is consistent with the need for proper planning and sustainable development. Adequate and appropriate critical service infrastructure should be in place, or required to be put in place, to service any development proposed and authorised during the lifetime of the Plan. • Biodiversity: The Plan should include specific actions/objectives and commitments to protect designated habitats and protected species (and associated ecological corridors/linkages) within, and adjacent to, the Plan area. The EPA guidance on <i>Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes. Best Practice Guidance</i>. It is encouraged to inform practitioners, plan/project proponents and consent authorities on integrating SEA, EIA and AA processes and requirements to streamline biodiversity considerations. • The need to protect non-designated aspects of biodiversity, including ecological corridors/linkages/green infrastructure and areas of important local biodiversity should also be considered. 	<ul style="list-style-type: none"> • The Report Ireland's Environment - An Assessment 2020 has been reviewed in full and relied on for the description of much of the baseline environment. The UN Sustainable Development Goals (SDGs) have been taken into throughout the entirety of the SEA process • Proper planning and sustainable development have been prioritised throughout the entirety of the SEA process and plan development. • The SEA has been prepared with reference to all biodiversity related legislation. • The Climate Action Plan 2021 has been considered throughout the SEA and national commitments on climate change have been aligned. • Ireland's Greenhouse Gas Emissions Projections for 2018-2040 have been taken into account. • <i>Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland</i> has been reviewed for the SEA. • The EPA website was utilised for guidance on SEA process guidance and checklists and the inventory of spatial datasets, relevant to SEA topic specific SEA guidance. • The ESM Webtool has been noted and reviewed as a useful support tool to assist the SEA process.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	<ul style="list-style-type: none"> ● Invasive Alien Species Control and Management: A clear commitment should be included to ensure that implementation of the Plan, in particular any proposed development associated with the Plan, addresses the control and management of invasive species. ● Climate Action: In preparing the Plan, account should be taken into the need to align with national commitments on climate change mitigation and adaptation, including those set out in the Climate Action Plan 2019, as well as incorporating any relevant recommendations and measures in sectoral, regional and local climate adaptation and mitigation plans. ● <u>Ireland’s Greenhouse Gas Emissions Projections for 2018-2040</u> (EPA, 2019) should be taken into account in preparing the Plan, as appropriate and relevant. ● Update of the existing good practice guidance note on how to incorporate climatic factors into plans and programmes falling under the remit of the SEA Directive should be reviewed – <u>Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland</u> (EPA, 2019). ● Key climate-related aspects to consider in the Plan and SEA include: <ul style="list-style-type: none"> a. Direct and indirect impacts of the Plan on greenhouse gas emissions and removals (Mitigation) b. Direct and indirect impacts of climate change on the implementation of the Plan, e.g., the resilience of critical water service infrastructure to flooding and drought (Adaptation). c. The linkages between mitigation and adaptation (inter-relationships). ● Key Plans and Programmes: Suggested national / regional / sectoral plans to consider in preparing the Plan and SEA <ul style="list-style-type: none"> - National Clean Air Strategy (DCCAE, in prep) - National Air Pollution Control Programme (DCCAE, 2019) ● Available Guidance & Resources: EPA website should be used for guidance: <ul style="list-style-type: none"> - SEA process guidance and checklists 	<ul style="list-style-type: none"> ● The relevant environmental authorities have been consulted with for the SEA process, under the SEA Regulations.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	<ul style="list-style-type: none"> - Inventory of spatial datasets relevant to SEA topic specific SEA guidance (including Good practice note on Cumulative Effects Assessment (EPA, 2020), Guidance on SEA Statements and Monitoring (EPA, 2020), Integrating climatic factors into SEA (EPA, 2019), Developing and Assessing Alternatives in SEA (EPA, 2015), and Integrated Biodiversity Impact Assessment (EPA, 2012)). • Environmental Sensitivity Mapping (ESM) Webtool: New ESM Webtool should be used as a support tool to assist SEA and planning processes in Ireland and to help planners anticipate potential land-use conflicts and help identify suitable development locations, while also protecting the environment. Encouraged to use EPA tools including: <ul style="list-style-type: none"> - EPA SEA WebGIS Tool - EPA AA GeoTool Should ensure that the Plan/Variation aligns with national commitments on climate change mitigation and adaptation, as well as relevant sectoral, regional and local adaptation plans. • Environmental Authorities: Under the SEA Regulations, encouraged to also consult with: <ul style="list-style-type: none"> - Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media (formerly Minister for Culture, Heritage and the Gaeltacht (functions transferred from Minister for Environment, Heritage and Local Government/ Minister for Housing, Planning and Local Government to Minister for Culture, Heritage and the Gaeltacht by S.I. 192 of 2011). - Minister for Environment, Climate and Communications (formerly Minister of Communications, Climate Change and the Environment). - Minister for Agriculture, Food and the Marine; and - any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a draft plan, proposed variation or local area plan. 	

4.4 Baseline Data

Gathering relevant information relating to the state of the environment for a plan area is an integral part of the SEA process. The SEA Directive requires that certain information relating to the relevant environmental baseline is presented in order to help test the performance of the plan's implementation, as well as helping establish how the environment would change if the plan were not to implemented. Baseline information has been collected from readily available sources, including the 2020 EPA State of the Environment Report. A Geographical Information System (GIS) was used to graphically present relevant information. The baseline information is reported in **Section 5** of this report.

4.5 Considerations of Alternatives

The SEA Directive requires that reasonable alternatives be assessed in order to demonstrate how the preferred strategy performs against other forms of action. Alternatives must be developed, described and assessed within the SEA process, with the results presented in the ER. **Section 7** of this report identifies, describes and evaluates different scenarios for development in Kildare, taking into account national planning policy, economic development policy, and the SEOs identified in **Section 6**.

4.6 SEA Sensitivity Mapping

Environmental Sensitivity Mapping was prepared in order to provide relevant information on environmental constraints so that environmental issues could be taken into consideration from the earliest possible stages of the SEA. The Environmental Sensitivity Mapping has been used to inform the environmental baseline description provided in **Section 5** of this Report and certain mitigation measures identified in **Section 9**.

4.7 Environmental Assessment of the Draft County Development Plan

The environmental assessment process ran in parallel to the development and preparation of the draft CDP. The environmental assessment process was undertaken in accordance with best practice SEA principles and guidance. This included desk reviews of all of the available GIS data, specialist investigation into the likely effects associated with the draft CDP and recommendations for suitable mitigation measures along with monitoring.

4.8 SEA Statement

On adoption of the CDP, the SEA Statement will be made public and will include information on how environmental considerations were integrated into the CDP.

It will highlight the following:

- Main changes to the CDP which resulted from the SEA process.
- How the Environmental Report and consultations were taken into account.
- Summary of the key issues raised in consultations and in the Environmental Report indicating what action was taken in response.
- The reasons for choosing the CDP in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the CDP was selected.

4.9 Consultations

Further to the SEA Scoping consultation outlined in **Section 4.3**, this SEA Environmental Report will be issued to the relevant statutory stakeholders for comment. The responses received will be addressed in the finalisation of the Environmental Report. An outline of the responses received will be included in the SEA Statement.

4.10 Technical Difficulties Encountered

No major technical difficulties were encountered during the preparation of this Environmental Report.

5 Current State of the Environment

5.1 Introduction

An assessment of the current state of the environment and key environmental issues for Kildare County was conducted within the draft Kildare CDP 2023-2029 SEA Scoping Report. A full description is included in this Environmental Report. GIS is used extensively to provide regional information.

Where data gaps are found for particular aspects of the environment, the significance of these data gaps are evaluated and clearly stated. It will also be stated whether these gaps can be addressed during the SEA process.

The baseline environment is assessed under the following headings:

- Population and Human Health;
- Biodiversity;
- Land and Soil;
- Water;
- Air, Noise and Climate;
- Archaeology, Architectural and Cultural Heritage;
- Landscape and Visual; and
- Material Assets.

In accordance with S.I. 436 of 2004 (as amended) consideration will be given to whether the environmental effects, both positive and negative, of the Plan are likely to be significant.

5.2 Population and Human Health

5.2.1 Population Baseline

According to Census 2016 data, the population of Kildare County was 222,504 (CSO, 2016). This is 4.7% of the State total (4.76 million) and 9.5% of the Eastern & Midlands Regional Assembly (2.32 million). The population has increased by 5.8% (or 10,595) since 2011.

According to the NPF Implementation Roadmap and RSES the population of County Kildare is projected to increase to between 249,000 and 254,000 by 2026 and to between 259,000 and 266,500 by 2031 (DHPLG, 2018). The above figures for Kildare provide for a population range for the period 2026 and 2031.

Taking the higher range for each year the county population is projected to increase by 31,500 persons to 2026 and by an additional 12,500 to the year 2031.

As part of the new CDP, there will be implemented sustainable settlement patterns at appropriate locations, facilitating compact growth and urban regeneration and encouraging healthy urban and rural communities in tandem with the delivery of the required social infrastructure.

Kildare has geographically varied population density with the northeast of the county having by far the highest population densities.

Some key figures relating to the Population baseline of Kildare are included in **Figure 5.2.1**.

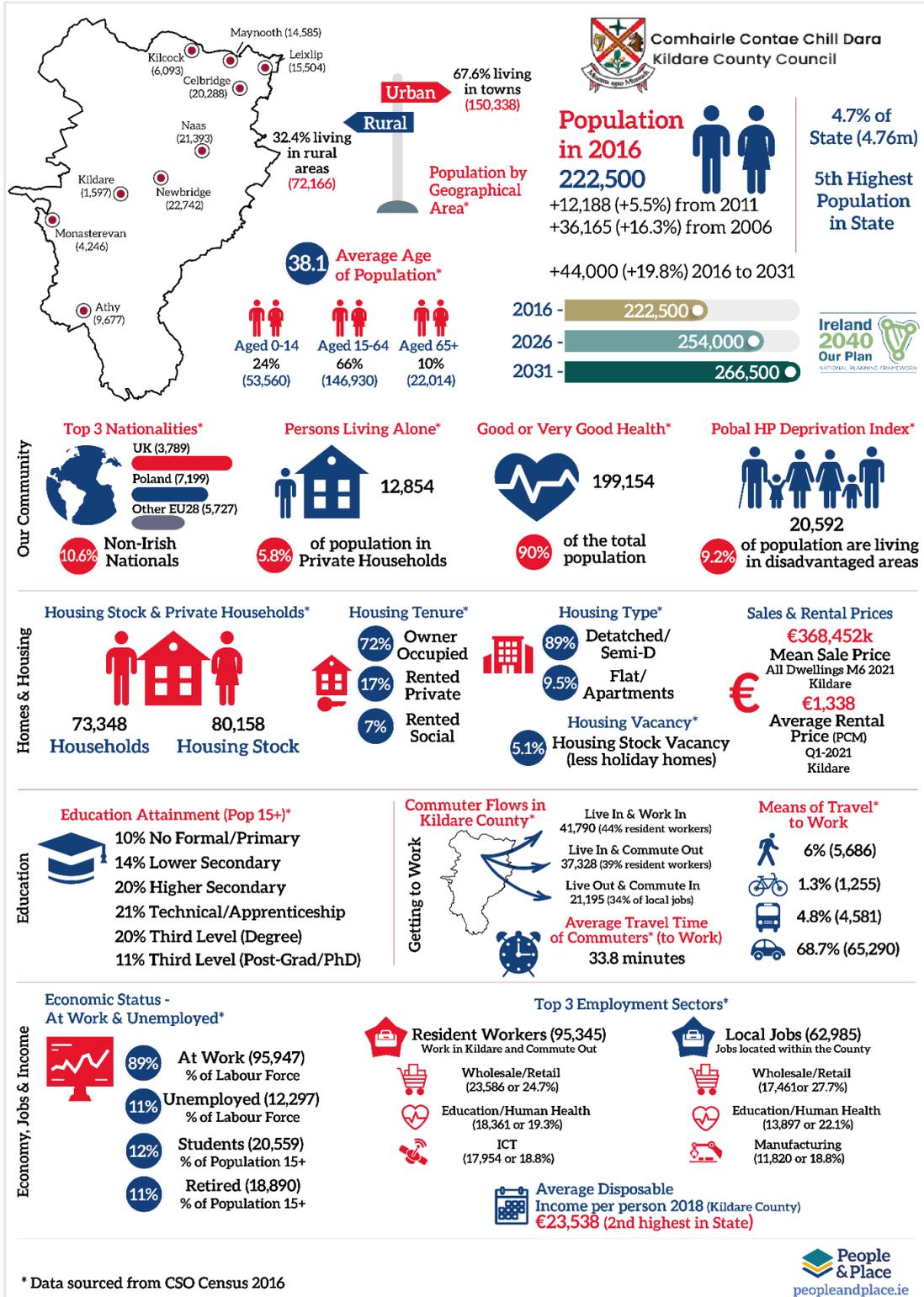


Figure 5.2.1 Overview of Key Population Statistics Source: (CSO, 2016)

5.2.2 Human Health

The concept of health has been defined by the World Health Organisation as “... *a state of complete physical, psychological and social well-being, and not simply the absence of disease or infirmity.*” (WHO, 2022). Health is influenced by many factors in the social and built environment including housing, employment status, education, transport and access to fresh food and resources, as well as the impacts of air quality, water quality, flooding and access to green space.

Good planning can play an important role in reducing health inequalities. The World Health Organisation’s Commission on the Social Determinants of Health (CSDH) states governments should ‘*ensure urban planning promotes healthy and safe behaviours equitably, through investment in active transport, retail planning to manage access to unhealthy foods, and through good environmental design and regulatory controls, including control of the number of alcohol outlets*’ (CSDH, 2022).

Given the strong links between income and health, it is recognised that the sustainability of current and future economic activity is an important element in protecting and promoting population health. However, emphasising economic growth without due regard for social and environmental consequences of such growth can have negative impacts on health both for the population as a whole and for groups within the population.

Even within areas of economic development, job creation does not necessarily 'trickle down' to job opportunities for the long-term unemployed, and is neither a sufficient, nor necessary, condition for reducing long-term unemployment.

Thus, economic development needs to be targeted, geographically and within population groups to ensure that it reduces and does not exacerbate social inequalities.

Cognisance must also be paid to environmental issues and sustainability endeavours to protect human health as the local economy develops. While employment is generally good for health, there can be negative impacts, usually related to the quality of the working environment and type of work undertaken. The groups which face the highest risk of experiencing the adverse effects of unemployment appear to be middle-aged men, youths who have recently left school, the economically marginal such as women attempting re-entry to the labour force and children in families in which the primary earner is unemployed.

The level of green space and access to the natural environment is extremely important for the populace health. The health and wellbeing of individuals is greatly affected by the communities in which they live and the nature of their physical environment. A key element of sustainable communities is access to space as environments which lack public gathering places can encourage sedentary living habits. Open space provision can improve levels of exercise in a community which can impact on health and can improve social interaction and community activities which can contribute to reducing stress-related problems.

Availability of spatial data on human health is limited. A key area for consideration of human health will be the interaction between environmental aspects such as water, landscape, biodiversity, air, and energy and human beings.

The current CDP sets out the Council's policies and objectives relating to the provision of health services in the county. It is the policy of the Council, for example, *'to respond to current and future health needs to support healthy communities across the county and to facilitate and enable a multiagency approach to service delivery in community settings'* (KCC, 2022).

According to the Kildare Local Economic and Community Plan (LECP) (2016-2021) Socio-Economic Baseline Report and Kildare Socio-Economic Baseline Report (2015), over 90% of Kildare's population report their health status as good/very good (KCC, 2016); (KCC, 2015). This is higher than both the State and regional figures. These results are the fourth highest in the country and higher than both the State average (88.3%) and the Eastern & Southern region (88.5%). Only 1.3% of the total population identified themselves as having Bad or Very Bad health which is the 7th lowest in the country.

The assessment of impacts on human health will reference other sections of the SEA as relevant along with considering aspects such as the Industrial Emissions Directive, the SEVESO Directive and Flood Risk Assessments. This will ensure that all relevant vectors through which human health impacts could be caused as a result of the draft Plan are assessed.

5.3 Biodiversity including Flora and Fauna

The UN Convention on Biological Diversity defines biodiversity as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part." This includes sites, habitats, species and networks of importance at the international, national or local level, and which may occur within or outside the Plan area.

The term biodiversity refers to more than individual species. It includes the genes they contain, the habitats and ecosystems of which they form part, and also highlights the interdependence and interconnectedness of all living things.

The main elements of biodiversity are:

- European (Natura 2000) sites (SACs and SPAs, and candidate SACs and SPAs);
- NHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries, Refuges for Fauna or Flora or sites proposed for designation;
- Undesignated sites such as proposed NHAs (pNHAs), local biodiversity areas;
- Sites and habitats that can be considered to be corridors or stepping stones for the purpose of Article 10 of the Habitats Directive;

- Natural habitats and protected species for the purposes of the Environmental Liability Directive, including habitats and species listed under the Habitats Directive (Annex I habitats, Annex II and Annex IV species and their habitats) and Birds Directives (Annex I species and their habitats, and regularly occurring migratory birds) wherever they occur;
- Legally protected species including protected flora under the European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts 1976-2000;
- Sites identified under the Bern, Ramsar and Bonn Conventions; and
- Biodiversity in general including habitats important for birds, red listed and BoCCI listed species, natural and semi-natural habitat areas including wetlands, woodlands, waterbodies, etc.

5.3.1 Baseline

The National Parks and Wildlife Services (NPWS) is responsible for conserving ecosystems to maintain and enhance populations of flora and fauna in Ireland, designating, advising and consulting on the protection of habitats and species.

A recent Article 17 report issued by the NPWS provided the current status of Ireland's 59 protected natural habitats and 60 protected species (NPWS, 2019).

Reported data show that populations of 72% of species protected under the EU Habitats Directive are stable or improving, 57% of species assessed have a favourable conservation status and that species such as the pine marten and otter have shown an increasing trend, with some key species, however, declining.

Natural heritage in County Kildare includes a wide range of natural features that make an essential contribution to the environmental quality, ecological biodiversity, landscape character, visual amenity and recreational activities across the County.

The Kildare County Biodiversity Action Plan (2017-2021) provides a framework for conserving biodiversity and natural heritage at a local level (KCC, 2017). It complements the Kildare Heritage Plan by including detailed actions to deliver positive outcomes focused on species and habitats (KCC, 2020). In 2020 Kildare LEADER Partnership funded the development of 10 Biodiversity Action Plans for specific towns and villages, including:

1. Allenwood Biodiversity Action Plan 2021 - 2025
2. Ballitore Biodiversity Action Plan 2021 - 2025
3. Ballymore Eustace Biodiversity Action Plan 2021 - 2025
4. Carbury Biodiversity Action Plan 2021 - 2025
5. Celbridge Biodiversity Action Plan 2021 - 2025
6. Clane Biodiversity Action Plan 2021 - 2025
7. Kilcullen Biodiversity Action Plan 2021 - 2025
8. Kill Biodiversity Action Plan 2021 - 2025

9. Monasterevin Biodiversity Action Plan 2021 - 2025
10. Newbridge Biodiversity Action Plan 2021 - 2025 (KCC, 2020).

The dominant environments across Kildare County are improved grassland (for agriculture), urban, built land and forest/woodland (mixed and broad leaved) as well as peat bog and wetlands. For this reason, it is important to ensure that local biodiversity areas, which form an important part of the County's Green Infrastructure and support connectivity within the network, are maintained, and given the opportunity to increase their distribution.

There are several important watercourses located across the county meaning that water contributes significantly to Kildare's natural heritage. County Kildare falls into the catchments of the Liffey, the Barrow and the Boyne. These rivers and their associated tributaries and lakes support good areas of biodiversity.

The occurrence of natural vegetation adjacent to these water corridors also makes important contributions in terms of landscape character and ecology/biodiversity.

5.3.2 Habitats

The habitats of ecological importance present within Kildare County are noted as:

Woodland and Scrub Habitats: There are areas of woodland particularly along linear corridors such as the Rye Water, The Liffey and the River Barrow. The woodlands provide areas of bio-diverse habitat with many native species of trees and significant vegetation connectivity across the County.

Mixed & Broad-Leaved Forest Habitats: There are a number of forest habitats located throughout the County particularly to the North of the County. These forest habitats provide significant areas for biodiversity, including areas for endangered species such as red squirrels. Examples of forest habitats in Kildare include Kilteel Wood, Derryvullagh Wood and Killinthomas Wood.

Hedgerow and Treeline Habitats: Hedgerows form part of an extensive wildlife network across Kildare County and contribute to the maintenance of habitat links across urban environments. Hedgerows can also provide roosting posts for bats.

Watercourse Habitats: There are a number of habitats associated with the watercourses throughout County Kildare. The main rivers along with their tributaries, lakes, reservoirs, canals and streams support a wide range of habitats and biodiversity. The three main rivers that flow through Kildare are the Barrow, the Liffey and the Boyne.

These rivers support habitats for fish including trout and salmon. The Barrow is designated as a site of international nature conservation importance due to the diverse range of habitats that occur in and along the river including some endangered species. Wetlands such as marshes and riparian zones (habitats along rivers and lakes with vegetation that can tolerate the wet conditions e.g., wet woodland or reed swamp), are also important for wildlife and for helping to maintain water quality.

The Royal and Grand Canals are both designated proposed Natural Heritage Areas supporting rich wildlife. Examples of protected areas in Kildare include: Poulaphouca Reservoir which is protected as an SPA (Special Protection Area), Ballynafagh Lake and Rye Water Valley/Carton which are both protected as SAC's (Special Area of Conservation).

The Grand and Royal Canal Corridors Habitats: The Grand Canal and the Royal Canal are extensive water corridors that flow through the county. There is natural vegetation, coniferous and mixed plantations adjacent to the water corridors including fringing wetlands and towpath grasslands. The areas are underdeveloped in some locations due to the difficulty for the existing topography to visually absorb development, allowing biodiversity to flourish.

The River Liffey Valley and the River Barrow Valley Habitats: The River Liffey and River Barrow valleys are of significance as they are sensitive to development due to the extensive upland views. They are characterised by smooth terrain and low vegetation. Shelter vegetation exists along some stretches of the valleys with the presence of natural and native woodland that grows on the floodplains of the rivers, as well as by conifer plantation in adjacent lands, providing important habitat for biodiversity due to the underdevelopment of these areas.

Agricultural Land with Natural Vegetation Habitats: extensive areas of grassland within farmland areas are located across the County particularly in the East and Midlands. These cultivated, arable farmlands along with any associated natural vegetation provide excellent habitats that support widespread habitat connectivity.

The Curragh and Environs Habitat: The Curragh is the largest area of unenclosed natural grassland in the country and provides a valuable amenity area for the surrounding towns of Kildare, Newbridge and Kilcullen. It consists of an extensive open plain area of lowland acidic grassland, succeeding to dry heath in places, remaining unfertilised for hundreds (perhaps thousands) of years. This has given rise to unusual habitats in both an Irish and European context making it an important conservation area. Nationally important populations of rare fungi are found which only occur in ancient grasslands. It is a Special Area of Conservation (SAC).

Pollardstown Fen Habitat: Pollardstown Fen is situated on the northern margin of the Curragh lying in a shallow depression, running in a north-west/south-east direction. Pollardstown Fen is the largest remaining calcareous spring-fed fen in Ireland. It has a unique fen ecosystem that holds international importance due to it containing endangered plant communities. It is a Special Area of Conservation (SAC).

Thermal Springs Habitats: There are numbers of thermal springs in Kildare including springs with tufa formation known as calcareous springs which are recognised as priority habitat for nature conservation. Thermal springs have their own distinctive fauna with species that are adapted to the warm conditions. Thermal springs in Kildare include Louise Bridge near Leixlip (SAC), St. Patrick's Well, Morristown and Sunday's Well.

East Kildare Uplands Habitats: The East Kildare Uplands are rural in character with a number of scenic views from elevated vantage points. The general land use is defined as pasture, with some tillage, quarrying and forestry allowing for diverse habitats and ecology.

Grassland Habitats: The less intensively managed grasslands, improved grasslands and grasslands on lime-rich soils often support a larger diversity of grasses, wildflowers and invertebrates than intensively managed grasslands. These types of grasslands are becoming increasingly rare and only survive in areas that are inaccessible or unsuitable for cultivation. Semi-natural grasslands can be found in some commonage areas, on cutaway bogland, along road margins, canal banks and abandoned quarries.

Peatland Habitats: Kildare contains large tracts of peatland, and the two main types are raised bogs and fens. Peat is of an acidic nature and when in wet conditions results in deep accumulation creating environments suitable for unique flora and fauna including many types of sphagnum moss. Raised bogs support a variety of plants that can cope with the wet and acidic conditions including the insect-eating sundews. These sites have international significance due to their scarcity on a world-wide scale. Bogs and fens create habitats suitable for dragonflies, damselflies and butterflies including some endangered species. Fens are also particularly important for breeding and wintering birds. The Irish Peatland Conservation Council (IPCC) owns and manages a number of peatlands for conservation and runs The Bog of Allen Nature Centre in Kildare. Examples of bogs that are protected as SPAs in Kildare include; Ballynafagh Bog, Mouds Bog, Red Bog. Two bogs protected as NHAs (Natural Heritage Area) in Kildare include; Carbury Bog and Hodgestown Bog.

Man-Made Habitats: There are many man-made habitats within Kildare County that serve as important biodiversity areas. These include gardens, parks, graveyards, amenity walks, railway lines and patches of woodland and scrub. These man-made green areas provide habitats for a range of wildlife including various bird species, invertebrates, such as bees and butterflies and various small mammals. The hedgerows and vegetation allow for a network of green spaces, providing continuity between habitats, or 'stepping-stone habitats', so the different species can move between these areas.

Urban Environments: Buildings and artificial surfaces are present across the County and, for the most part, were noted to support little or no ecologically valuable flora. However, some urban areas can be found to host a variety of flora and fauna particularly in green spaces, hedgerows and waste-ground. For example, foxes have become increasingly visible in urban areas.

Kildare is home to several rare, protected and/or threatened flora and fauna. The natural habitats and species across the County are under pressure from many threats including development, urban expansion, pollution, alien invasive species, habitat loss and fragmentation, peat extraction, inappropriate management and climate change.

5.3.3 Species of flora and fauna

Protected plants are those that are legally protected under the Flora Protection Order within the Wildlife (Amendment) Act 2000 (e.g., Opposite leaved Pondweed, Basil Thyme or Hairy St. John's-wort). Various animals are also afforded protection within the Wildlife Acts (e.g., all native mammals). Species listed on Annex II of the European Union Habitats Directive (e.g., Otters, White-clawed Crayfish, Marsh Fritillary Butterfly) or Annex I of the EU Birds Directive (e.g., Golden Plover, Kingfisher) are also protected.

The County supports a range of rare, threatened and endangered plant, animal and bird species under European and Irish legislation. It is the policy of the Council to protect and promote the conservation of biodiversity outside of designated areas and to ensure that species and habitats that are protected under the Wildlife Acts 1976 - 2012, the Birds Directive 1979, the Flora Protection Order and the Habitats Directive 1992 are adequately protected.

The River Rye water supports a significant population of Brown trout and provides spawning habitat for a population of Atlantic salmon.

The Liffey and several of its tributaries are exceptional in the area in supporting Atlantic salmon (*Salmo salar*, listed under Annex II and V of the EU Habitats Directive) and Sea trout (*Salmo trutta*) in addition to resident Brown trout (*Salmo trutta*) populations. This highlights the sensitivity of local watercourses and the Liffey catchment in general. Narrow-mouthed Whorl Snail (*Vertigo angustior*) and Desmoulin's Whorl Snail (*Vertigo moulinsiana*) are protected within Rye Water Valley/Cartron SAC.

The Kildare Bat Group and Bat Conservation Ireland carry out bat surveys around the County. Of the nine confirmed resident species of bats in Ireland seven have been recorded and confirmed in County Kildare. All bat species are protected under Annex IV of the EU Habitats Directive, while the lesser horseshoe bat is listed under Annex II. Member states are required to designate Special Areas of Conservation for all species listed under Annex II in order to protect them.

There is a high population of Otters in Kildare in particular along the Barrow and the Liffey. The number of otters in Europe has declined rapidly causing them to be a protected species under European legislation making the Irish population particularly important.

White-Clawed Crayfish are found in the River Barrow as well as in small headwater tributaries and in lakes. White-Clawed Crayfish are regarded as a keystone species, they are widespread across much of Ireland and populations have not declined to the extent that they have in other parts of Europe.

Marsh Fritillary Butterfly has been recorded in areas of natural grassland sites in Kildare that have been established on cutover peatlands. It is recognised as one of the most endangered species in Europe and efforts are being made to conserve the species in Kildare.

Butterfly Conservation Ireland is a new conservation body based in Kildare that is dedicated to saving butterflies and moths. They manage an area of cutover bog for conservation purposes.

5.3.4 Trees

5.3.4.1 Trees Tree Preservation Orders (TPOs)

A Tree Protection Order can be made if it appears to the planning authority to be desirable and appropriate in the interest of amenity or the environment. A TPO can apply to a tree, trees, group of trees or woodland. The principal effect of a TPO is to prohibit the cutting down, topping, lopping or willful destruction of trees without the planning authority's consent. The order can also require the owner and occupier of the land subject to the order to enter into an agreement with the planning authority to ensure the proper management of trees or woodland. **Table 5.3.1** lists the TPOs in County Kildare.

Table 5.3.1 TPOs in Kildare

Location	TPO reference	Map reference (OS map No)
Clane	1987/1	OS 6"14
Ballymore Eustace	1991/1	OS 6"29
Clogheen (Moore Abbey)	1988/1	OS 6"28
Clongowes	1987/1	OS 6" 14

5.3.5 Invasive Species

Alien species are plants or animals that have been introduced, usually by people, outside their natural range. Alien species can sometimes become 'invasive' when they spread rapidly and outcompete the native flora and fauna, pushing out native species and/or leading to environmental degradation. Invasive species present one of the greatest threats to biodiversity worldwide. Invasive species can be particularly problematic in aquatic systems. They can have a negative impact on recreational and amenity use of waterways, as well as threatening native ecosystems.

According to EPA Ireland's Environment 2020 - An Assessment (2020) invasive species will remain the same or increase unless action is taken (mainly due to climate change pressures and agricultural system changes) (EPA, 2020a). Invasive non-native species, such as the zebra mussel, grey squirrel and Pacific oyster, have displaced species and damaged ecosystems in Ireland.

The rhododendron continues to threaten Irish oak woodlands, mink threaten ground-nesting birds and an increased number of water bodies are subject to crayfish plague, however, the increase in pine marten numbers has resulted in grey squirrel declines in recent years (EPA, 2020a).

It is the current policy of the Council to support measures for the prevention and eradication of invasive species within the county.

According to the National Biodiversity Data Centre, there are records of a number of invasive species in County Kildare. These invasive species include Curly leaved waterweed, Japanese Knotweed and Variegated yellow archangel, the Canadian Waterweed, Himalayan Balsam, American Mink, Grey Squirrel and Jenkin's Spire Snail – among others (Centre, 2022).

It is required by the Council as part of the planning application process to eradicate/control invasive introduced species including Japanese Knotweed, when identified on a site or in the vicinity of a site, in accordance with Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

5.3.6 Designated Sites

There are a range of statutory provisions in force in Ireland to protect, conserve and manage our natural heritage, and to control and regulate human activities that may impact upon it negatively. The Department of Housing, Local Government and Heritage is responsible, through the NPWS, for the designation of conservation sites in Ireland.

Currently there are three main types of designation of protected areas: Special Areas of Conservation, Special Protection Areas and National Heritage Areas.

Designated conservation sites within 15km of the study area have been listed as 15km distance is currently recommended in the case of plans, deriving from UK guidance (Scott Wilson et al., 2006), and is therefore applied in this assessment.

Special Areas of Conservation (SACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the Department of Housing, Local Government and Heritage due to their conservation value for habitats and species of importance in the European Union. There are seven SACs in County Kildare.

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) by the Department of Housing, Local Government and Heritage due to their conservation value for birds of importance in the European Union. There is one SPA in County Kildare.

Table 5.3.1 Natura 2000 sites within County Kildare **Source:** (NPWS, 2022)

Site Code	Site Name	Qualifying Features (QIs)
391	Ballynafagh Bog SAC	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion
396	Pollardstown Fen SAC	Calcareous fens with Cladium mariscus and species of the Caricion davallianae Petrifying springs with tufa formation (Cratoneurion) Alkaline fens Vertigo geyeri Vertigo angustior Vertigo moulinsiana
397	Red Bog, Kildare SAC	Transition mires and quaking bogs Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation Active raised bogs
1387	Ballynafagh Lake SAC	Alkaline fens Transition mires and quaking bogs Vertigo moulinsiana Euphydryas aurinia
2162	River Barrow and River Nore SAC	Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glaucio-Puccinellietalia maritima) Mediterranean salt meadows (Juncetalia maritimi) Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation European dry heaths Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels Petrifying springs with tufa formation (Cratoneurion) Old sessile oak woods with Ilex and Blechnum in the British Isles Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Spartina swards (Spartinion maritima) Allis shad (Alosa alosa) Atlantic salmon (Salmo salar) Brook lamprey (Lampetra planeri) Desmoulin's whorl snail (Vertigo moulinsiana) Freshwater Pearl Mussel (Margaritifera margaritifera) Killarney Fern (Trichomanes speciosum) Freshwater Pearl Mussel (Margaritifera durrovensis) Otter (Lutra lutra) European river lamprey (Lampetra fluviatilis) Twait shad (Alosa fallax) White clawed crayfish (Austropotamobius pallipes)
2331	Mouds Bog SAC	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion

Site Code	Site Name	Qualifying Features (QIs)
4063	Poulaphouca Reservoir SPA	Greylag Goose (<i>Anser anser</i>) Lesser Black-backed Gull (<i>Larus fuscus</i>)
001388	Carbury Bog NHA	Peatlands
001393	Hodgestown Bog NHA	Peatlands
001398	River Water Valley/Carton SAC	Petrifying springs with tufa formation (<i>Cratoneurion</i>) <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) <i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail)

All SACs/SPAs/NHAs within County Kildare are outlined in **Table 5.3.1** and illustrated in **Figure A2** in **Appendix A**. A brief summary of each of the designated sites is also provided, some of which has been taken from the National Parks and Wildlife Service's Site Synopses.

There are eleven additional SACs identified as being within 15km of the County border which is of relevance to the preparation of the draft Plan, refer to **Table 5.3.2**.

Table 5.3.2 Natura 2000 Sites within 15km of the County boundary **Source:** (NPWS, 2022)

Site Code	Site Name	Distance from County Boundary (m)	Qualifying Features (QIs)
781	Slaney River Valley SAC	1,640	Estuaries; Floating river vegetation; Old oak woodlands; Residual alluvial forests*; Tidal mudflats; Atlantic Salmon (<i>Salmo salar</i>); Brook Lamprey (<i>Lampetra planeri</i>); Common Seal (<i>Phoca vitulina</i>); Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); Otter (<i>Lutra lutra</i>); River Lamprey (<i>Lampetra fluviatilis</i>); Sea Lamprey (<i>Petromyzon marinus</i>); Twaite Shad (<i>Alosa fallax</i>)
925	The Long Derries, Edenderry SAC	610	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites)
1209	Glenasmole Valley SAC	6,480	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites) Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) Petrifying springs with tufa formation (<i>Cratoneurion</i>)

Site Code	Site Name	Distance from County Boundary (m)	Qualifying Features (QIs)
2122	Wicklow Mountains SAC	3,320	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea Natural dystrophic lakes and ponds Northern Atlantic wet heaths with Erica tetralix European dry heaths Alpine and Boreal heaths Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) Blanket bogs (* if active bog) Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsetalia ladani) Calcareous rocky slopes with chasmophytic vegetation Siliceous rocky slopes with chasmophytic vegetation Old sessile oak woods with Ilex and Blechnum in the British Isles Lutra
1757	Holdenstown Bog SAC	3,040	Transition mires and quaking bogs
2141	Mountmellick SAC	8,730	Vertigo moulinsiana
2256	Ballyprior Grassland SAC	2,790	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)
2299	River Boyne and River Blackwater SAC	390	Alkaline fens Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Lampetra fluviatilis Salmo salar Lutra
2342	Mount Hevey Bog SAC	4,130	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion
4040	Wicklow Mountains SPA	5,720	Merlin Falco columbarius Peregrine Falco peregrinus
4232	River Boyne and River Blackwater SPA	370	Kingfisher Alcedo atthis

Natural Heritage Areas (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. Proposed NHAs were published on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. There are 23 NHAs in County Kildare as listed in **Table 5.3.3**.

Table 5.3.3 Natural Heritage Areas in County Kildare **Source:** (NPWS, 2022)

Site Name	Site Code
Carbury Bog	001388
Hodgestown Bog	001393
Ballina Bog	000390
Corballis Hills	001389
Curragh	000392
Derryvullagh Island	001390
Donadea Wood	001391
Dunlavin Marshes	001772
Grand Canal	002104
Kilteel Wood	001394
Liffey at Osberstown	001395
Liffey Bank at Athgarvan	001396
Liffey Valley Meander Belt	000393
Mouds Bog	000395
Oakpark	000810
Pollardstown Fen	000396
Poulaphouca Reservoir	000731
Red Bog	000397
Royal Canal	002103
Ballynafagh Bog	000391
Ballynafagh Lake	001387
Barrow Valley at Tankardstown	000858
Rye Water Valley / Carton	001398

While proposed Natural Heritage Areas (pNHAs) have not been formally proposed or designated these sites are still of significance for wildlife and habitats. A process is underway to resurvey and formally designate some pNHAs as NHAs. There are 21 pNHAs located within the County boundary.

Table 5.3.4 proposed Natural Heritage Areas in County Kildare **Source:** (NPWS, 2022)

Site Name	Site Code
Ballina Bog	000390
Ballynafagh Bog	000391
Curragh (Kildare)	000392
Liffey Valley Meander Belt	000393
Mouds Bog	000395
Pollardstown Fen	000396
Red Bog, Kildare	000397
Poulaphouca Reservoir	000731
Oakpark	000810
Barrow Valley at Tankardstown Bridge	000858

Site Name	Site Code
Ballynafagh Lake	001387
Corballis Hill	001389
Derryvullagh Island	001390
Donadea Wood	001391
Kilteel Wood	001394
Liffey At Osberstown	001395
Liffey Bank Above Athgarvan	001396
Rye Water Valley/Cartron	001398
Dunlavin Marshes	001772
Royal Canal	002103
Grand Canal	002104

5.4 Land and Soils

5.4.1 Baseline

5.4.1.1 Land and Soils

Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action. Sustainable land use and spatial planning are extremely important as activities linked with land and soils can directly impact on biodiversity, climate change, air quality and aquatic environment.

Soil types, as classified by Teagasc in cooperation with the Forest Service, EPA and GSI are mapped on **Figure A3** in **Appendix A**. In Kildare County there are variety of different soil types that support a number of uses including agriculture.

Subsoils in the County are primarily made up of Limestone dominated till and Limestone sands and gravels. A strip of sandstone dominated till runs down the eastern County boundary. Large expanses of Cutaway Peat are evident in the north and west of the County.

Alluvium, marl and lake sediments are dispersed throughout the County. These soils may indicate the current or historic flood plains of the County's various rivers and lakes.

The soil type in the northeast of the County has been identified as being predominantly 'Urban' or 'Made Ground'. Made ground consists of materials modified by people, including those associated with mineral exploitation and waste disposal. They include materials deposited as a result of human activities or geological material modified artificially so that their physical properties (structure, cohesion and compaction) have been drastically altered.

Given the urban nature of certain areas and the range of land use activities which have taken place historically, soils may have been contaminated to some degree in the past in certain areas. Such contamination has the potential to affect water quality, biodiversity and flora and fauna and human health.

The County Development Plan 2017-2023 includes provisions in relation to environmental protection and degraded/contaminated lands (KCC, 2017).

5.4.1.2 Geology

The predominant rock types in Kildare are sedimentary rocks, limestone of Carboniferous age in particular. These sedimentary rocks have only been mildly affected by folding and retain many of their original sedimentary and depositional structures. There are also some minor igneous rocks and the larger Tullow Granite Pluton, which is a part of the Leinster Granite. The bedrock of Kildare is illustrated in **Figure A4** in **Appendix A**.

In 2005, the Council in partnership with the Irish Geological Heritage Programme of the Geological Survey of Ireland, assessed the geological heritage of Kildare and identified the 20 of the most important sites which are worthy of protection as County Geological Sites. It is the policy of the Council to maintain the conservation value and seek the sustainable management of the county's geological heritage resource.

The locations of the 20 County Geological Heritage Sites within County Kildare are mapped on **Figure A5** in **Appendix A** and listed in **Table 5.4.1**.

Table 5.4.1 Kildare County Geological Sites **Source:** (Matthew Parkes, 2005)

Site Name	Geological Interest	Location
Chair of Kildare	Precambrian – Devonian Palaeontology	Carricknearla, Conlanstown, Cannonstown
Dunmurry Hill	Precambrian – Devonian Palaeontology	Dunmurry
Hill of Allen	Cambrian-Silurian	Barnacrow
Slate Quarries	Cambrian-Silurian	Slate Quarries
Ballysax	Quaternary	Curragh
Glen Ding	Quaternary	Blessington, Athgarrett, NewtownGreat, Newtown Park
Pollardstown Fen and Springs	Quaternary	Scarlettstown, Roseberry, Rathbride, Cornelscourt
Moorhill	Quaternary	Kilcullen
The Curragh	Quaternary	St. Ledgers Bottoms
Ballykane Hill	Lower Carboniferous	Kilrainy
Carbury Castle	Lower Carboniferous	Carbury
Carrick Hill, Edenderry	Lower Carboniferous	Carrick
Liffey Oxbow	Fluvial/Lacustrine Geomorphology	Celbridge
Liffey Valley	Fluvial/Lacustrine Geomorphology	Ballymore Eustace-Kilcullen
Kilbrook Spring	Hydrogeology	Kilbrook
Louisa Bridge Springs (Cold and Warm)	Hydrogeology	Leixlip
St Brigid's Well – Japanese Gardens	Hydrogeology	Kildare

Site Name	Geological Interest	Location
St. Patrick's Well	Hydrogeology	Barrettstown, Naas
St. Patrick's Well	Hydrogeology	Ardrass Lower
St. Peter's Well	Hydrogeology	Dunmurraghill
Rathcore Spring	Hydrogeology	Herbertstown

The Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended) has transferred to the National Waste Collection Permit Office (NWCPO). There are 35 registered waste facilities in Kildare County as registered under the Environmental Protection Agency.

5.5 Water Resources

5.5.1 Baseline

5.5.1.1 Hydrology

The three main rivers that flow through Kildare are the Barrow, the Liffey and the Boyne, along with other small rivers and tributaries. The River Barrow catchment which includes the main channel and tributaries such as the Rivers Slate, Figile, Athy, Tully, and Greese is the largest catchment in the County. Other catchments include those of the Boyne and Liffey.

The River Barrow rises in the Slieve Bloom mountains in Co. Laois and is joined by the Nore approximately 4km upstream of New Ross. The river is tidal up to St. Mullin's. The Barrow flows in a north easterly direction and runs for 192km. The Barrow makes up part of the Black River in the town of Monasterevin in County Kildare. Before the Barrow leaves Monasterevin it has the distinction of the Grand Canal passing over it via Aquaduct.

The River Liffey rises in the Wicklow Mountains, about 32km southwest of Dublin, and flows in a generally north-westerly direction from its source to the Lackan Reservoir. The river then runs westward in the Kildare lowland and gradually turns north-westward to Droichead Nua and northeast to Celbridge and Leixlip. It then flows eastward through the city of Dublin, in which it is extensively canalized and bordered with quays. It drains to Dublin Bay, an arm of the Irish Sea, after a course of 50 miles (80 km).

The River Boyne has its source near Newbury Hall in County Kildare. The main channel is some 113km with north-west of the County included in the catchment area.

The River Boyne flows northeast through County Meath, where it enters the Irish Sea right between County Meath and County Louth at Momington, east of Drogheda.

There are a number of lakes and reservoirs in the County including the Poulaphouca, Leixlip Liffey and Golden Falls reservoirs and Redbog Lake. The Zone of Influence of the Plan beyond the County area with respect to impacts upon waters can be estimated to be all bodies of groundwater and all surface waters downstream areas of catchments which drain the County.

The Water Framework Directive

Since 2000, water management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD) (EC, 2000).

The WFD has been transposed into Irish legislation by the European Communities (Water Policy) Regulations 2003 (SI No. 722 of 2003) and requires that all member states implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving good status by 2015.

Ireland is required to produce a river basin management plan under the WFD. In April 2018 the Government of Ireland published the River Basin Management Plan for Ireland 2018-2021 (Ireland, 2018). The Plan sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. Water quality in Ireland has deteriorated over the past two decades.

As part of the implementation of the EU Water Framework Directive 2000/60/EC (WFD) a baseline risk assessment was completed of the water bodies in Ireland. These assessments were made using water pollution indicators, point and diffuse pollution sources, water abstractions and detail on commercial activities.

The risk assessment assigned a water quality status to each waterbody and indicated a risk status namely, whether the water body would meet the criteria for "good status" or would be considered "at risk" of not meeting the standards by 2015.

The County is located within the Eastern and Southeastern River Basin Districts. The Local Authorities located in the RBDs have prepared River Basin Management Plans. The Eastern RBD Plan has been adopted. The Management Plans provide objectives for river basins in order to implement the requirements of the WFD to help protect and improve all waters in the RBDs.

The largest catchment in the County is the Barrow catchment which drains the southwest of the County and includes the Barrow River and all of its tributaries. This catchment is generally a mixture of good or moderate status.

The northeast of the County forms part of the Liffey catchment which includes the River Liffey and its tributaries. The waters in the Liffey catchment are generally classified as being of poor or good status. Poulaphouca Reservoir is located within the Liffey catchment and partially in County Kildare. This lake is the only lake in Kildare attributed with a status (it is identified as being of moderate status). Downstream of County Kildare, the Liffey catchment includes various bathing waters at Dublin Bay.

The north-eastern corner of the County forms part of the Boyne catchment – waters here are generally classified as being of poor or moderate status.

Surface water features in Kildare County are shown on **Figure A6 of Appendix A**. The WFD Quality Status 2010-2015 for Rivers and Lakes within the County are shown in **Figure A7 of Appendix A** and the WFD Risk Status for Rivers and Lakes within the County is shown on **Figure A8 of Appendix A**.

5.5.1.2 Hydrogeology

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters.

Groundwater protection within the County is carried out through the County's Groundwater Protection Scheme which has been undertaken jointly between the Geological Survey of Ireland and Kildare County Council. The purpose of the scheme is to preserve the quality of groundwater, particularly for drinking water purposes, for the benefit of present and future generations. The scheme identifies the vulnerability of areas within the County and Groundwater protection responses for existing and new potentially polluting activities.

Groundwater is generally identified as being of good status however the Curragh Gravels West groundwater catchment is identified as being of poor status.

Groundwater Vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Groundwater is most at risk where the subsoils are absent or thin and, in areas of karstic limestone, where surface streams sink underground at swallow holes. Groundwater underlying County Kildare is mainly classed as Medium to High vulnerability. Other areas are classified as having extreme or low groundwater vulnerability.

The GSI rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. Ireland's entire land surface is divided into nine aquifer categories. Groundwater Productivity rates the value of the groundwater resource. The predominant categorisation in County Kildare is Locally Important Sand/Gravel Aquifers. These types of aquifers are capable of yielding enough water through boreholes or springs to supply domestic, commercial and industrial uses, depending on the nature and scale of the development. Two large areas of Locally Important Aquifers – Generally Moderately Productive are identified in the northwest of the County.

The most productive aquifers in the County - Regionally Important Karstified Aquifers – are found only in a small area in the south of the County.

Regionally Important Karstified Aquifers – Dominated by Diffuse Flow are found in the west of the County and run through to the centre.

Poor Bedrock Aquifers - which are generally unproductive - are found in the east of the County and these are interspersed with areas that are productive in local zones.

A Register of Protected Areas (RPAs) in County Kildare, by virtue of how their waters are used by people, includes stretches of rivers supplying waters intended for human consumption – these are protected under the Drinking Water Regulations (S.I. 439/2000). Other RPAs include downstream bathing waters in the Liffey catchment.

An unusual feature of the groundwater regime in County Kildare is the formation of warm springs.

Calcareous springs with tufa formation are recognised by the European Union as a priority habitat for nature conservation under the EU Habitats Directive. There are 6 sites recognised by the Geological Survey of Ireland (GSI), in partnership with the National Parks and Wildlife Service, as having hydrogeological importance. Those sites include Kilbrook Spring, Louisa Bridge Springs (Cold and Warm), St. Brigid's Well -Japanese Gardens, St. Patrick's Well, St. Patrick's Well and St. Peter's Well.

Groundwater features and source protection zones in the County are shown in **Figure A9 of Appendix A**. Groundwater vulnerability in the County is shown in **Figure A10 of Appendix A**. WFD Groundwater quality and risk status' in the County is shown in **Figure 4.11 and Figure A12 of Appendix A**.

5.5.1.3 Flooding

Flooding is an environmental phenomenon which, as well as causing economic and social impacts, could in certain circumstances pose a risk to human health.

The main sources of flood risk within County Kildare are fluvial (from rivers/streams) and pluvial (from rainwater) flooding.

Measures such as Strategic Green Infrastructure planning will assist in meeting statutory obligations under EU directives and national legislation, including the Water Frameworks and Floods Directive. Sustainable Urban Drainage Systems (SUDS) drain surface water in an environmentally friendly way by replicating natural systems in managed environments. SUDS systems seek to collect, store and release surface water back to the environment using natural systems in a slow and controlled way, thereby reducing the risk of fluvial and pluvial flooding.

The draft Plan will undergo Strategic Flood Risk Assessment (SFRA) in response to requirements contained in The Planning System and Flood Risk Management Guidelines for Planning Authorities (DEHLG/OPW, 2009).

The SFRA will be informed by modelled information on flood risk from the Office of Public Works which has been prepared as part of the Catchment Flood Risk Assessment and Management (CFRAM) Studies. County Kildare falls within two CFRAM Studies, the Eastern CFRAM and the Southeastern CFRAM (OPW, 2022); (OPW, 2022a). The two CFRAM Studies identified Areas for Further assessment (AFAs), which through the National CFRAM Programme will be assessed by a flood risk management plan.

The designation of AFAs took into account flood risk AFAs and comprise the following settlements: Allenwood, Athy, Castledermot, Celbridge, Clane, Hazelhatch, Johnstownbridge, Kilcock, Leixlip, Maynooth, Monasterevin, Naas, Newbridge, Rathangan, Suncroft, Turnings/Killeenmore.

5.6 Air, Noise and Climate

5.6.1 Baseline

5.6.1.1 Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The EPA measures the levels of a number of atmospheric pollutants throughout Ireland in order to measure compliance with Air Quality Standards Regulations, 2011 (S.I. No. 180 of 2011). For the purposes of monitoring in Ireland, four zones are defined in the Regulations:

- **Zone A:** Dublin Conurbation;
- **Zone B:** Cork Conurbation;
- **Zone C:** Other Cities and Large Towns; and
- **Zone D:** Rural Ireland which is the remainder of the State excluding Zones A, B and C.

Newbridge, Naas, Leixlip and Celbridge are located within Zone C while the rest of the County is located within Zone D.

The Air quality in Zone C and Zone D as reported in the EPA 2021 report ‘Air Quality in Ireland 2020’ is summarised in **Table 5.6.1**

Table 5.6.1 Air Quality Assessment Zone C and Zone D Concentrations compared to Air Quality Standards **Source:** (EPA, 2021)

Parameter	Zone C: Average annual measured concentration ($\mu\text{g}/\text{m}^3$)	Zone D: Average annual measured concentration ($\mu\text{g}/\text{m}^3$)	Air quality standard ($\mu\text{g}/\text{m}^3$)
NO ₂	11	7.6	40
SO ₂	2.6	4.15	20
CO	200	400	10,000
PM ₁₀	13.4	11.2	40
PM _{2.5}	9.5	7.75	25

The Environmental Protection Agency manages the National Ambient Air Quality Network. This Network sets legislative limit and target values for the protection of human health and vegetation.

5.6.2 Noise

The Environmental Noise Directive (END) (2002/49/EC) requires that action is taken by each member state, with a view to preventing and reducing environmental noise where necessary (particularly where exposure levels can induce harmful effects on human health) and to preserving environmental acoustic quality where it is good. The relevant local authorities have been designated by the Environmental Noise Regulations, S.I. Regulations No. 140 of 2006, as the bodies charged with development and making of ‘Noise Action Plans’.

Kildare County Council prepared the third Noise Action Plan for County Kildare in 2019 (KCC, 2019). This Noise Action Plan primarily considers the long-term environmental noise impact from road, rail and air traffic noise sources, and sets out an approach to review noise impact levels near to the major sources assessed during the strategic noise mapping in 2017 with a view to identifying locations where noise reduction is deemed necessary in the first instance. In County Kildare, there are no major agglomerations or major airports subject to noise mapping or action planning.

Strategic Noise Maps have been prepared for all roads deemed to fall within the threshold of 3 million vehicles a year. The total length of identified major roads included within the strategic noise mapping was 258 km which amounts to 10.2% of the total road network which is relatively large compared to other counties. This broke down into 157 km of motorways and national roads, 94.4 km of regional roads and 6.4 km of local road.

The Noise Action Plan addressed a number of sections of ‘Major Roadway’ that are located within Kildare County which qualified for noise mapping and, as such were subject to consideration for action planning.

Kildare Local Authorities and Transport Infrastructure Ireland identified the extent of “Major Roads” using traffic count data to identify any sections of motorways, national roads or regional roads with more than 3 million vehicle passages per year

The total length of “Major Roads” (as defined in the Regulations included within the strategic noise mapping was 235 km (KCC, 2019). The “Major Roads” are categorised into:

- 108 km of Motorways,
- 9 km of National Roads,
- 112 km of Regional Roads, and
- 7 km of Local Roads

In Kildare the motorways identified and included within the strategic noise mapping are outlined in **Table 5.6.3**

Table 5.6.3 Lengths of Motorways in Kildare designated as ‘Major Roads’ **Source:** (KCC, 2019)

Motorway	Approximate Length (km)
M4	32.7
M7	36.4
M9	38.5

In Kildare the major national roads identified and included within the strategic noise mapping are outlined in **Table 5.6.4**

Table 5.6.4 Lengths of National Roads in Kildare designated as ‘Major Roads’ **Source:** (KCC, 2019)

National Road	Approximate Length (km)
N7	8.5
N81	0.5

Regional Roads classified as “Major Roads” either in total or in part are outlined in **Table 5.6.5**

Table 5.6.5 Lengths of Regional Roads in Kildare designated as ‘Major Roads’ **Source:** (KCC, 2019)

Regional Road and Location	Approximate Length (km)
R125	1
R148	16
R149	1.3
R158	0.7
R403	14.4
R405	2.5
R406	6.8
R407	20.5
R410	3
R413	2.8
R415	0.5
R416	4.4
R445	21
R447	4.4
R448	7.2
R449	5

Local Roads classified as “Major Roads” either in total or in part are outlined in **Table 5.6.7**

Table 5.6.7 Lengths of Local Roads in Kildare designated as ‘Major Roads’ **Source:** (KCC, 2019)

Local Road and Location	Approximate Length (km)
L203	4.3
L204	0.9
L301	0.2

Local Road and Location	Approximate Length (km)
L407	0.7
L507	0.9

Mapping involved estimating noise levels at and adjacent to the “Major Roads” detailed above. In the context of the noise action plan this refers to all areas exposed to noise from the “Major Roads” above a level of L_{den} 55 dB(A) and L_{night} 50 dB(A).

Iarnród Éireann (Irish Rail) identified that the extent of “Major Railways” had increased in the County from Cherryville Junction near Kildare Town to the Laois border by approximately 10 km. The length of major railway in Kildare is approximately 45 km. Iarnród Éireann (Irish Rail) developed the Strategic Noise Mapping for the “Major Railways” in the County.

In County Kildare there are no “Agglomerations” or “Major Airports.”

The plan concludes that there are an estimated 745 people in Kildare above the L_{den} threshold for noise from road traffic sources, and an estimated 5,185 people above the L_{night} threshold.

In accordance with the Plan, proposals for residential developments near busy roads in urban areas may be required to show how it is proposed that impacts of noise are mitigated. A Noise Impact Assessment along with noise screening measures such as facade insulation and noise barriers should form part of proposals, as appropriate.

The general approach to be taken by Kildare County Council in managing environmental noise in the area involves:

- Noise reduction at source;
- Land use planning adapted to noise goals;
- Procedures to reduce noise impact; and
- Operating restrictions to reduce noise emissions.

Kildare County Council has developed a detailed Programme of Works for the duration of the Noise Action Plan (2019 to 2023) and proposed to implement the programme subject to the availability of the requisite technical staff, expertise and financial resources.

5.6.3 Climate

The existing climate for County Kildare corresponds with the general climatic conditions for the whole country which is dominated by the Atlantic Ocean and its air and oceanic currents. Consequently, the region does not suffer from extremes of temperature. According to Met Éireann, average annual temperature is about 9°C. Mean annual wind speed varies between about 4 m/sec in the east midlands and 7 m/sec in the northwest. Average rainfall varies between about 800 and 2,800mm. Rainfall accumulation tends to be highest in winter and lowest in early summer (Éireann, 2022).

However, our climate is changing. As outlined in by the EPA (2022), human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels with a likely range of 0.8°C to 1.2°C. At current levels of global greenhouse gas emissions, the world remains on course to exceed the Paris Agreement's temperature thresholds of either 1.5°C or 2°C above pre-industrial levels.

Climate change not only means changes in the average climate such as temperature but also changes in the frequency and intensity of extreme weather and climate events. Though climate change projections, like all projections of the future, are subject to uncertainty, the latest climate modelling projections for Ireland are in broad agreement with previous research.

According to the EPA (2022) Ireland's climate is changing in line with global trends, with a temperature increase of, on average, 0.8°C compared with 1900. By the middle of this century (2041 - 2060) the average annual temperatures are projected to increase by between 1-1.2°C and 1.3-1.6°C depending on the emissions trajectory. The number of warm days is expected to increase and heat waves are expected to occur more frequently.

The recent five-year (2015–2019) and ten-year (2010–2019) periods are the warmest on record. Since the 1980s, each successive decade has been warmer than any preceding decade since 1850.

In Ireland, 2019 was the ninth consecutive year with temperatures above normal. Ireland has seen a reduction in the number of frost days and shortening of length of the frost season.

The number of very intense storms is projected to increase over the North Atlantic region. Projections suggest that the winter track of these storms may extend further south and over Ireland more often.

Sea surface temperature in Irish waters has increased at a rate of approximately 0.6°C per decade since 1994, which is unprecedented in the 150-year observational record.

5.6.3.1 Climate Change Targets

In October 2014, EU leaders agreed a 2030 policy framework to reduce greenhouse gas emissions by at least 40% compared to a 1990 baseline. Since then, the EU has proposed a yet more ambitious target, in its 2030 Climate Target Plan, which proposes to cut greenhouse gas emissions by at least 55% by 2030, setting the EU on a trajectory to be climate neutral by 2050 (EC, 2020b). This new proposal 'delivers on the commitment made in the Communication on the European Green Deal to put forward a comprehensive plan to increase the European Union's target for 2030 towards 55% in a responsible way.

The European Commission is working on preparing legislative proposals on how this target is achieved and aims to revise, by June 2021 all relevant policy documents to deliver this objective.

In Ireland, the Climate Action and Low Carbon Development Act was published by government in January 2015 (Ireland, 2015). The Act sets out the national objective of transitioning to a low carbon, climate resilient and environmentally sustainable economy in the period up to 2050.

Since then and to reflect the ever-increasing focus on climate change and the need for accelerated action, the Climate Action and Low Carbon Development (Amendment) Bill was published in October 2020 (Ireland, 2020b). This commits Ireland, in law, to move to a climate resilient and climate neutral economy by 2050.

The Act brings in a system of 5-year economy-wide carbon budgets, which will outline a ceiling for total greenhouse gas emissions. These will be prepared by the Climate Change Advisory Council and presented to Government to consider and approve, with input from the Oireachtas.

The Bill includes the following key elements:

- Establishes a 2050 emissions target;
- Introduces system of successive 5-year, economy-wide carbon budgets starting in 2021;
- Strengthens the role of the Climate Change Advisory Council in proposing carbon budgets;
- Introduces a requirement to annually revise the Climate Action Plan and prepare a National Long Term Climate Action Strategy at least every decade;
- Introduces a requirement for all Local Authorities to prepare individual Climate Action Plans which will include both mitigation and adaptation measures.

This legislation sends a clear signal to businesses, to farmers and to communities that climate action is good for the economy. It will allow Ireland to reach climate targets while creating jobs and sustainable growth in new sectors.

The publication Ireland's Environment – An Integrated Assessment provides a high-level summary on the status of greenhouse gases and climate change in the Irish context (EPA, 2020a). Ireland's GHG emissions increased by 10.1% in the period from 1990 to 2019. The full implementation of additional policies and measures, outlined in the Climate Action Plan, will result in a reduction in Ireland's total GHG emissions by up to 25% by 2030 compared with 2020 levels (DECC, 2021).

Agriculture represents the single largest contributor to emissions (35.3%), followed by Transport, Energy Industries and the Residential sector with 20.3%, 15.8% and 10.9% respectively. The key drivers and pressures and responses to climate change that may occur, especially in relation to Ireland's current high dependency on fossil fuels, are particularly challenging. The longer reduction of GHG emissions is delayed, the greater the effort and costs.

Restrictions related to Covid-19 have taught us that long term improvements can only be achieved with targeted climate and environmental actions that change consumption and production systems in a sustainable and lasting manner.

The recent Kildare County Council Climate Adaptation Strategy informs policies and objectives throughout the Development Plan process with increased emphasis on sustainable development and travel patterns, energy use and the protection of green infrastructure (KCC, 2019b). It notes that well-designed places and buildings can have a strong impact on resilience to climate change and reduction in carbon emissions can be achieved, for example, encouraging walking and cycling and providing easier access to public transport.

5.7 Archeology, Architectural and Cultural Heritage

5.7.1 Baseline

Built heritage is addressed in this report under the following headings:

- Archaeological Heritage;
- Architectural Heritage; and
- Vernacular Heritage.

Kildare County Council published the County Kildare Heritage Plan 2019-2025 in 2019 (KCC, 2019c). The Heritage Plan outlined an action plan for the conservation, preservation and enhancement of Kildare's heritage including natural heritage.

The built heritage of Kildare refers to all man-made features, buildings or structures in the environment. This includes a rich and varied archaeological and architectural heritage to be found throughout the countryside and within the historic towns and villages of the county.

The architectural and archaeological heritage of a town, village or place contributes greatly to the distinctive character of each local area.

The Heritage Plan includes for the following: monuments, archaeological objects, heritage objects, architectural heritage, flora, fauna, wildlife habitats, landscapes, geology, heritage gardens and parks and inland waterways. Additionally, the Plan makes provision for other aspects of cultural heritage such as history, genealogy, traditional skills, place names and folklore.

5.7.2 Archaeological Heritage

A record of archaeological heritage is maintained on the 'Record of Monuments and Places' which was established under Section 12 of the National Monuments (Amendment) Act, 1994 (No. 17 of 1994). Structures, features, objects or sites listed in this Record are known as Recorded Monuments.

The Record of Monuments and Places (RMP) comprises a list of recorded monuments and places and accompanying maps on which such monuments and places are shown for each county.

The National Monuments Service of the DHLGH will advise on the protection applying to any particular monument or place under the National Monuments Acts by reason of it being entered in the Record of Monuments and Places and should be consulted if there is any doubt as to the status of the site.

For national monuments in the ownership or guardianship of the Minister or a Local Authority or which are subject to a preservation order or temporary preservation order, the prior written consent of the Minister is required for any works at or in proximity to the monument.

According to the database there are approximately 84 Recorded Monuments and Places within County Kildare as outlined in the following tables. **Figure A13 of Appendix A** depicts Recorded Monuments in County Kildare.

Table 5.7.1 National Monuments in State Ownership in County Kildare **Source:** (Service, 2022)

RMP Number	Monument	Townland
KD002-007	Grange Castle	Grange Castle
KD019-033001	Manorial House	Jigginstown
KD020-007006 KD020-007005-	Castle, Church, Cross	Kilteel Upper
KD005-015----	Castle	Maynooth
KD038-035----	Ringfort	Mullaghreelan
KD028-049005, KD028-04906, KD028-049002 KD028049003, KD028-049004, KD028-049010-	High Crosses, Round Tower	Oughterard
KD015-007003, KD015-007005-	Round Tower, Church	Oughterard
KD024-009001-	Standing Stone	Punchestown
KD010-014002-	Church & Graveyard (Monastic Site)	Taghadoe
KD010-014004--	Round Tower	Taghadoe
KD011-040----	Conolly Folly- Folly/Obelisk	Barrogstown West
KD040-002005	Castledermot Abbey	Friary (Franciscan)
KD010-018001	Castle	Rathcoffey Demesne

Table 5.7.2 National Monuments in State Guardianship **Source:** (Service, 2022)

RMP Number	Monument	Townland
KD040-002002 KD040-002004 KD040-002010 KD040-002011 KD040-002012	Round Tower, Crosses	Castledermot
KD019024001-	Furness Church	Forenaghts Great
KD038-045001-	St. John's Tower	Skenagun

Table 5.7.3 Monuments Vested in the Care of Kildare County Council **Source:** (Service, 2022)

RMP Number	Item and Location	Townland
KD002-009----	Carrick Castle	Carrick
KD007-001----	Kinnafad Castle	Kinnafad
	Remains of Mortuary Chapel at Carbury	Carbury
KD011-015001-	St Patrick's Chapel, Ardrass	Ardrass
	Arch of Haynestown Castle	Haynestown
KD023-015---	Great Connell standing stone	Great Connell
KD036-031----	Moone High Cross and graveyard	Moone
	Eagle Monument at Belan, Moone	Moone

Table 5.7.4 National Monuments which are subject to Preservation Order in County Kildare **Source:** (Service, 2022)

P.O. Order Number	RMP Number	Monument	Townland
78/1939	KD013-019002- KD013-019003-	House or Castle	Jigginstown
88/1940	KD014-026004-	Tumulus or Moat	Carrigeen
91/1940	KD035-010001-	Moat	Ardscull
92/1940	KD029-023----	"Broadleas Circle (Pipers Stones)	Broadleas Commons
93/1940	KD029-014001---	Standing Stone Longstone	Broadleas Commons
94/1940	KD024-007---	Standing Stone	Craddockstown West
95/1940	KD019-022002- KD019-022001-	Ringfort & Standing Stone	Forenaghts Great
183/1948	KD038-045001-	St. Johns Tower (see Nat Mon no 503)	Skenagun
200/1995	KD028-038001- KD028-038002- KD028-038003- KD028-038004-	Dun Ailline	Knockaulin & Glebe North
14/1956	KD014-021----	Rectilinear Earthwork- Pudderhall Moat	Clownings
15/1956	KD029-049----	Ring-barrow	Grangebeg
16/1956	KD022-014----	Ring-barrow	Lackagh Beg
17/1956	KD020-009004-	Motte	Rathmore East
16/1970	KD017-011001-	Ringfort	Rathangan
9/1970	KD024-001001-	Rath	Rathaskar
10/1972	KD024-025----	"The Ring" Earthwork	Sillagh
11/1972	KD012-006----	Monastic	Lullymore East
1/1993 TPO	KD009-005----	Ringfort	Donadea
7/1973	KD032-012001-	Standing Stone	Kilgowan
8/1976	KD032-024---- KD032-023----	Two Ringforts	Brewel West
32/1976	KD032-026001- KD032-026002-	Stone Circle	Brewel West

P.O. Order Number	RMP Number	Monument	Townland
1/1977	KD004-029----	Moated House Site	Ballykeelan
1/1999	KD029-01101--	Medieval Settlement	Ballymore Eustace
3/2000	KD019-032---- KD019-034---- KD019-033001- KD019-033002- KD019-033003-	Remains of sunken garden, pavilion & defensive earthworks	Jigginstown
03/07	KD019-010---- KD019-056---- KD019-057---- KD019-008004-	Archaeological Complex	Kill Hill

Table 5.7.5 Register of Historic Monuments in Kildare **Source:** (Service, 2022)

RMP Number	Name	Townland
KD010-001001-	Portion of the of the Pale (Linear Earthwork)	Ballybrack, Ballyloughan, Clonduff, Graiguepottle, Clonfert South
KD010-021---- KD014-008002-	Portion of Pale	Castlebrown or Clongowes
KD010-001001-	Earthwork	Mullamast
KD008-001001- KD008-001002-	Carbury Castle	Carbury
KD032-012001-	Standing Stone	Kilgowan
KD024-026----	Motte & Bailey	Donode Big
KD024-012----	Ringfort	Blackhall
KD028-024---	Multiple Ring Barrow	Killcullenbridge
KD019-001----	Four groups of Barrows	Barrettstown
KD019-032---- KD019-034---- KD019-033001- to KD019- 033003-	Remains of Sunken Garden, Pavilion & Defensive Earthwork	Jigginstown
KD019-035----	Ringfort	Ladytown
KD036-034----	Ringfort	Moone
KD040-015----	Old Priory or Nunnery of Graney	Graney East
KD029-031----	Ringfort	Alliganstown
KD009-011001-	Early Church Site	Dunmurraghill
KD020-005----	Inauguration Mound	Kilteel Lower
KD014-007001-	Motte & Bailey	Mainham
KD006-005----	Earthworks Associated with Early Church Site	Donaghmore
KD019-030----	Motte	Naas West
KD036-023----	Ring Barrow	Timolin
KD017-031----	Fulacht Fiadh	Mount Prospect
KD029-027----	Ringfort	Kennycourt
KD023-012----	Motte & Bailey	Oldconnell
KD019-046----, KD019-048----	Fulacht Fiadh Complex/Area	Tipper South

RMP Number	Name	Townland
KD019-049---- , KD019-050---- KD019-054----, KD019-055----		
KD010-018----	Castle	Rathcoffey Demense
KD020-010----	Ringbarrow	Punchestown Great
KDD020-006----, KD020- 007002- to KD020- 007010- KD020-008001-	Medieval Settlement	Kilteel
KD004-026002- KD004-026003-	Church Enclosure & Graveyard	Grange
KD027-004----	Tumulus	Grangebeg/Ballygreany
KD004-005----	Church & Graveyard	Dunfierth
KD011-011----	Medieval Bridge	Parsonstown, Coneyburrow & St. Wolstan's
	Three Enclosures	Ballymore Eustace West
	Medieval settlement	Ballymore Eustace East
KD022-029----, KD022-030----	Greyfriars Abbey	Kildare/Grey Abbey
KD024-003---- KD024-003001- KD024-003002- KD024-003003-	Ecclesiastical Remains, Church & Graveyard, Round Tower, Souterrain(s)	Killashee

Ireland has a long and varied maritime history with extensive records for wrecks along its coast, rivers, lakes and offshore waters. The Underwater Archaeology Unit (UAU) of the DHLGH is in the process of compiling an inventory of wrecks for the coastal and inland waters of Ireland, the records from which are stored in a shipwreck inventory database and housed in the UAU archive. The Wreck Database is accessible through the Archive Unit of the National Monuments Service.

Over 18,000 wrecks have been recorded to date ranging from small fishing boats, dugout canoes and coastal traders to steamships and ocean-going ships. Though earlier sources have been included where obtainable, the inventory is largely based on documentary sources available from after 1700AD. As such, previously unrecorded shipwreck sites, including those dating to earlier periods, may await discovery in the River Liffey and its tributaries. Other forms of underwater archaeology may survive in the River Liffey in the form of abandoned vernacular craft, harbours, piers and jetties, waterside features, mills, fortifications, anchors, fish traps, crannogs, bridges, weirs, artefacts and the material traces of any activities in the past that involved the exploitation of riverine resources.

Many of these site types are protected and can be identified from the Record of Monuments and Places for the relevant County and in the relevant Urban Archaeology Survey.

However, previously unrecorded archaeological sites other than wrecks may also lie undiscovered in the rivers and streams in County Kildare.

5.7.3 Architectural Heritage

As defined by the Heritage Act, 1995, 'architectural heritage' includes all structures, buildings, traditional and designed, and groups of buildings including streetscapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest.

The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the DHLGH and established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the DHLGH to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

County Kildare has an abundance of structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Such features are contained in the Record of Protected Structures (RPS).

According to the database, there are approximately 4,153 protected structures in County Kildare (2,571 NIAH and 1,582 Recorded Monuments), as indicated in **Figure A14 of Appendix A**.

In assessing proposals for development affecting a protected structure, the Council will require planning permission for works, both to the exterior and interior, which materially affects the character of a protected structure.

Owners and occupiers of protected buildings are required to ensure that buildings do not become endangered through harm, decay or damage.

There are 12 Architectural Conservation Areas (ACA) in County Kildare, as shown in **Figure A15 of Appendix A**. In Architectural Conservation Areas, the Council will have regard to the enhancement and protection of the essential visual qualities of the area when developing in an ACA.

5.7.4 Vernacular Heritage

Vernacular Architecture describes the local regional traditional building forms and types using indigenous materials, and without grand architectural pretensions, i.e., the homes and workplaces of the ordinary people built by local people using local materials.

This is in contrast to formal architecture, such as the grand estate houses of the gentry, churches and public buildings, which were often designed by architects or engineers.

The majority of vernacular buildings are domestic dwellings. Examples of other structures that may fall into this category include shops, outbuildings, mills, limekilns, farmsteads, forges, gates and gate piers.

5.8 Landscape and Visual

5.8.1 Landscape

Landscape embraces all that is visible when one looks across an area of land. As well as being an important part of people's lives, giving individuals a sense of identity and belonging, landscape is the context in which all changes take place.

County Kildare is located in the Mid-East Region in Ireland. It is completely inland and bordering Dublin. The River Barrow, the River Boyne and River Liffey provide important landscape features in the area.

A Landscape Character Assessment (LCA) of the county was prepared as part of the current Kildare County Development Plan (KCC, 2017). The LCA focused on characterisation i.e., the discernment of the character of the landscape based on its land cover and landform, but also on its values, such as historical, cultural, religious and other understandings of the landscape. The purpose of this document is to assist in the development of the landscape objectives for the County Development Plan.

The County is divided into 15 geographically specific Landscape Character Areas (LCAs). In order to inform the Landscape Character Assessment, a landscape sensitivity map was prepared. Landscape sensitivity is a measure of the ability of the landscape to accommodate change or intervention without suffering unacceptable effects to its character and values.

The sensitivity of the Northern Lowlands is deemed to be of 'Low-Sensitivity' and is defined as an area 'with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area.'

The CORINE Land Cover (CLC) inventory is a Pan-European land use and landcover mapping programme.

It supplies spatial data on the state of the European environmental landscape and how it is changing over time. CORINE Land Cover mapping classifies land cover under various headings. The main land-uses in the County are Agricultural Areas, Artificial Surfaces, Peat Bogs, Inland Marshes and Forest (Mixed and Broad-Leaved),

Refer to **Figure A16 of Appendix A** for CORINE Landcover Data in the County and **Figure A18 of Appendix A** Landscape Character Areas.

5.8.2 Visual

Scenic routes and protected views consist of important and valued views and prospects within the county.

The current Kildare County Development Plan outlines all the views and prospects in the County which have been identified as being worthy of protection.

Scenic routes provide views of the landscape of the county and many built and archaeological features. In addition to scenic routes there are a number of protected views throughout the county. These are located particularly along water corridors and to and from the hills in the countryside. Scenic routes and protected views consist of important and valued views and prospects within the county. These scenic routes, hilltop views and scenic viewpoints are illustrated on **Figure A17 of Appendix A** and listed in **Table 5.8.6, 5.8.7 and 5.7.8**.

Table 5.8.6 Scenic Routes in County Kildare **Source:** (KCC, 2022)

No.	Description	Location
01	Views of Old Kilcullen to the east and Dún Aillinne to the west, from the R418 Motorway Interchange to the south of Moortown House.	Knockbounce, Knockaulin, Old Kilcullen, Glebe North, Moortown, Moortowncastle.
02	Views to the east of Yellowbogcommon, from the junction of R418/R448 to Halverstown crossroads.	Yellowbogcommon, Glebe South.
03	Views across Curragh Plains, north and south, along R445, from the junction of R413/R445 to Colgan's Cut.	Curragh
04	Views of the Curragh Plains: Little Curragh, a county road, the L7034, the L3006 and the L6075, from the Kildare Town boundary to Donnelly's Hollow and the R413 from Donnelly's Hollow to the Kildare Town boundary.	Curraghfarm, Strawhall, Curragh, Little Curragh.
05	Views of the Moate of Ardscull along the R418 from Russelstown crossroads to Kilmead.	Ardnsgross, Youngstown, Kilmead, Ardscull, Russellstown, Aghanure.
06	Views of Robertstown Countryside and views across the Canal, along the R415, L7075 and L7078.	Kilmeague, Grangeclare east & west, Mylerstown, Lowtown, Littletown, Robertstown east.
07	Views of Blessington Lake along the N81 from Poulaphuca Bridge to County Boundary at Bishopslane and from the County Boundary at Glassing to the County Boundary at Glebe East.	Bishopslane, Horsepasstown, Bishopslane, Balymore Eustace East and Glebe east.
08	Views of Bogland Plains; the L3002 from Kilmoney crossroads to Feighcullen crossroads at Boston Hill.	Kilmoney north & south, Drinnanstown north & south, Boston common and Feighcullen.
09	Views of the River Liffey along the R411 from the Liffey Bridge at Ballymore Eustace to the junction of the R411/L5043.	Broadleas commons, Bishopslane and Ballymore Eustace west.
10	Views of the West Plains on the Oughterard Road (L2009 and L2008).	Bishopscourt lower and Boston.
11	Views of the Upland Areas on the Oughterard Road (L6018 and L6021).	Oughterard, Tuckmilltown, Blackchurch, Loyns and Pluckstown.
12	Views west of the Kildare Plains from the Redbog Area and views towards Caureen from Rathmore crossroads to Pipershall along the L6038 road.	Greenmount, Redbog, Pipershall, Wolfestown,

No.	Description	Location
		Rathmore west and Punchestown lower.
13	Views to the River Liffey on the R413 from Brannockstown crossroads to Ballymore Eustace.	Moorhill, Grangemore, Brannockstown, Rochestown, Gaganstown, Ardenode east & west, Longstown and Ballymore Eustace west.
14	Views to and from Dunmurry Hill and Red Hill and views of the Central Kildare Plains and Boglands on the R401 and adjoining roads from Thomastown crossroads to the Kildare Town Boundary.	Thomastown west, Guidenstown south, Grangeclare, Killeagh commons, Redhills, Rahilla Glebe, Kildare town, Crockanure Glebe and Southgreen.
15	Views of the Plains of Kildare and West Central Boglands, to and from Newtown Hills (including county roads L5027, L50281, L5028, L1007).	Newtown, Grange, Nicholastown, Cappagh, Corocoranstown, Ballynakill, Ballyvoneen and Cloncurry.
16	Views of the Chair of Kildare and views of the Central Kildare Plains and Boglands from the L7004 and L70061.	Punchersgrange, Blakestown, Conlanstown and Canonstown.
17	Views of the Chair of Kildare and views of the Central Kildare Plains and Boglands along the R415, from the junction of the R415/Mill lane for 1.5km towards the north.	Dunbyrne, Barnacrow, Milltown, Barnacrow, Baronstown west.
18	Views of the Grand Canal, River Slate and surrounding countryside along the R414 from Rathangan Bridge to Spencer Bridge.	Rathangan demesne.
19	Views to and from the Corballis Hills: Along county roads, the L8097, the L8095 and the L8053, from Carrigeen to Sheriffhill crossroads.	Tankardstown, Corbalis, Ballynacarrick Upper, Ballynacarrick Lower, Aylmerstown and Sheriffhill.
20	Views to the north-west of the open countryside, from Killeel Village to Rathmore Village.	Furryhill, Killeel upper & lower, Rathmore east & west and Segravescastle.
21	Views east at Brewel, along the L6096 from Kingsland Castle Ruins to Ballintaggart.	Brewel East, Brewel West, Ballintaggart and Usk.
22	Views across the Barrow valley, along the L8017 from Pinhill crossroads to Burton crossroads (N78).	Burton Big, Ballinadrum, Glassely, Ballyadams and Lynamsgarden.
23	Views to the north-west of the Kildare Plains along the R418, south of Moortown House to Tippeen Lower.	Moortown, Thomastown, Ballyshannon and Tippeen Lower.
24	Views to and from Hughestown Hill (L8052).	Hughestown, Carrigeen Hill, Ballynacarrick lower and Davidstown.

No.	Description	Location
25	Views to the south of the open countryside from the L7081 Kilmeague crossroad to the junction of the L7081/L7078.	Kilmeague, Coolaght and Mylerstown.
26	Views from the county roads (L1005, L5019, L5018, L1006, L5017 and L5011) of Carbury Castle and Hill - Teelough road junction with the R402 and upland area at Mylerstown.	Haggard, Calfstown, Mylerstown, Knockcor, Carbury, Coolcor, Ardkill, Balrinnet, Ballinderry, Nurney, Williamstown, Windmill and Freagh.
27	Views of the countryside and the East Kildare Uplands along the L6056 from Bishopshill Commons to Ballymore Eustace.	Ballymore Eustace east and Bishopshill commons.
28	Views within the Carton Demesne Walls, to and from Carton House, the Lake and Woodland Areas.	Carton demesne.
29	Views of the River Liffey from the Main Avenue of Castletown House.	Castletown demesne.
30	Views to and from the Ridgeline of the East Kildare Uplands and views of the Central Plains along the L6030.	Oldtown, Kilteel upper, Rathbane, Punchestown upper & lower, Furryhill, Caureen, Slatequarries, Hempstown common and Pipershall.
31	Views towards Lyons Hill, Liffey Valley, Clonaghilis and Oughterard, along the R403 from Barberstown crossroads to Saint Patrick's Hill.	Barberstown lower and Barberstown.
32	Views of Ballynafagh Lake along the L7095 from junction with L1021 to junction with L5072.	Ballynafagh and Curryhills.
33	Views of Pollardstown Fen along the L7032 from Father Moore's Well to the Pollardstown Fen carpark.	Rathbride and Pollardstown.
34	Views along the R403 and R414 from Allenwood to Rathangan.	Allenwood middle, Allenwood south, Lullymore east & west, Barnaran, Drunsru, Cappanargid, Killyguire and Newtown.

Table 5.8.7 Hilltop Views in Kildare Source: (KCC, 2022)

No.	Hilltop Views
01	Red Hill
02	Dunmurry Hill
03	Grange Hill
04	Allen Hill
05	Hill at Ovidstown
06	Hill at Killickaweeny
07	Kilteel Hill
08	Caurcen Hill
09	Slieveroe Hill
10	Carrigeen Hill
11	Brevel Hill
12	Hughstown Hill
13	Corballis Hill
14	Boston Hill

No.	Hilltop Views
15	Dún Ailinne

Table 5.8.8 Views to and From Bridges Source: (KCC, 2022)

View Reference	Bridge	Location
Views of the River Liffey from Bridges		
RL01	Leixlip Bridge	Leixlip
RL02	New Bridge	Coneyburrow
RL03	Celbridge Bridge	Celbridge
RL04	Straffan Bridge	Lodgepark, Straffan
RL05	Alexandra Bridge	Abbeyland
RL06	Millicent Bridge	Castlesize
RL07	Caragh Bridge	Halverstown/ Gingerstown
RL08	Victoria Bridge	Moortown/ Yeomanstown
RL09	New Bridge	Droichead Nua (Newbridge)
RL10	Athgarvan Bridge	Rosetown/Athgarvan
RL11	Kilcullen Bridge	Kilcullen
RL12	New Bridge	Cramersvalley/Carnalway
RL13	Ballymore Bridge	Ballymore Eustace
Views of the Rye Water River from Bridges		
RW01	Black Bridge	Kellystown / Blakestown
RW02	Carton Bridge	Carton Demesne
RW03	Sandfords Bridge	Carton Demesne (L1014)
RW04	Kildare Bridge	Carton Demesne
RW05	Carton Bridge	Carton Demesne
Views of the River Barrow from bridges, adjacent lands and roads		
RB01	Greese Bridge	Jerusalem Newtownpilsworth
RB02	Maganey Bridge	Maganey Lower
RB03	Tankardstown Bridge	Grangemellon
RB04	Bert Bridge	Tyrellstown
RB05	Dunrally Bridge	Lowtown
RB06	Pass Bridge	Passlands
RB07	Mill Bridge	Levitstown
RB08	Baylough Bridge	Monasterevin (R424)
RB09	Bunberry Bridge	Athy
RB10	Monasterevin Bridge	Monasterevin (R445)
RB11	Crom Abu Bridge	Athy
Views to and from bridges on the Grand Canal		
GC1	Macartney's Bridge	Coolsickin or Quinsborough
GC2	Henry Bridge	Clonaghriis
GC3	Ponsonby Bridge	Barrowrath
GC4	Devonshire Bridge	Sherlockstown Common
GC5	Digby Bridge	Aghpaudeen
GC6	Landenstown Bridge	Landenstown
GC7	Connaught Bridge	Newtown
GC8	Cock Bridge	Goatstown
GC9	Bonynge Bridge	Mouds
GC10	Binn's Bridge	Robertstown
GC11	Fenton Bridge	Lowtown
GC12	Bond Bridge	Derrymullen
GC13	Hamilton's Bridge Lower	Killinagh
GC14	Ticknevin Bridge	Ticknevin
GC15	Harberton Bridge	Littletown
GC16	New Bridge	Littletown
GC17	Skew Bridge	Ballyteige North
GC18	Huband Bridge	Grangeclare West

View Reference	Bridge	Location
GC19	Pim Bridge	Newpark
GC20	Pluckerstown Bridge	Pluckerstown
GC21	Milltown Bridge	Milltown
GC22	Ballyteige Bridge	Ballyteige
GC23	Glenaree Bridge	Glenaree
GC24	Rathangan Bridge	Rathangan
GC25	Wilson's Bridge	Kiltaghan North
GC26	Ummeras Bridge	Ummeras More
GC27	Aylmer Bridge	Kearneystown Upper
GC28	High Bridge	Old Grange
GC29	Milltown Bridge	Moatstown
GC30	Tandy Bridge	Naas
GC31	Abbey Bridge	Naas
GC32	Ploopluck Bridge	Naas
GC33	Limerick Bridge	Naas
GC34	Milltown Old Bridge	Milltown
GC35	Clogheen Bridge	Monasterevin
GC36	Shee Bridge	Allenwood
GC37	Spencer Bridge	Rathangan
GC38	27th Lock Bridge	Monasterevin
GC39	Leinster Aquaduct	Sallins
Views to and from bridges on the Royal Canal		
RC1	Bailey's Bridge	Maws
RC2	Cope Bridge	Newtown/Leixlip
RC3	Louisa Bridge	Easton/Leixlip
RC4	Deey Bridge	Collinstown
RC5	Pike Bridge	Railpark/Donaghmore
RC6	Mullen Bridge	Railpark/Maynooth
RC7	Bond Bridge	Maynooth
RC8	Jackson's Bridge	Laraghbryan East
RC9	Chambers Bridge	Maws
RC10	Shaw Bridge	Kilcock
RC11	Allen Bridge	Boycetown
RC12	Rye Water Aqueduct	Leixlip
RC13	Moyvally Bridge	Moyvally

5.9 Material Assets

5.9.1 Baseline

The term 'Material Assets' refers to all infrastructure and local services including, transportation, water supply, wastewater treatment and discharge, waste management services, electricity supply, telecommunications etc. A summary of all material assets in County Kildare will be provided in the Environmental Report.

5.9.2 Water Supply

The provision of an adequate supply of water and wastewater treatment facilities is critical to facilitate and sustain the growth of the County over the lifetime of the Plan, and beyond. As of January 2014, Kildare County Council no longer has any direct control in relation to the provision of such services.

The delivery, integration and implementation of water and wastewater projects and infrastructural improvements are now the responsibility of Irish Water. Kildare County Council works closely with Irish Water to ensure the continued alignment with both the National Planning Framework, National Development Plan and the Draft Regional Spatial and Economic Strategy for the Eastern and Midland Region, and that the provision of water/wastewater services will not be a limiting factor in terms of targeted growth.

Irish Water being the Water Services body for the state and County Kildare is responsible for providing and maintaining adequate public water supply infrastructure. Private water supplies provide an alternative for areas that are not served by public water supply infrastructure and comprise mainly of wells for single dwellings and group water schemes for rural clusters and small settlements. Farms and commercial developments outside of settlements will usually also have their own private supplies. While the Local Authority has a limited role in the provision of such private supplies, for domestic supplies it administers grant schemes where available and undertakes monitoring.

Compliance with the drinking water requirements is determined by comparing the results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis. Under Section 58 of the Environmental Protection Agency Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000.

A Remedial Action List (RAL) of problematic drinking water supplies is released by the EPA on a quarterly basis (EPA, 2021a).

The Remedial Action list is a public record for the supplies known to be at risk and where the EPA is requiring Irish Water to take corrective action.

The EPA has instructed Irish Water to submit an action programme for the improvement of each of these supplies and has initiated enforcement action where action programmes were not being prepared or were not prepared to the satisfaction of the EPA. This includes issuing legally binding Directions requiring specific work to be carried out.

The most recent EPA Remedial Action List Q4 of 2021 illustrates that all water supplies within the County were in compliance with the Drinking Water regulations for Q4 of 2021 and are not in need of improvement with respect to treatment and management issues (EPA, 2021a).

5.9.3 Wastewater Treatment

The Water Services Acts 2007-2014 provide the legislative framework in relation to the planning, management and delivery of water supply and wastewater collection and treatment services (Ireland, 2007). It incorporates a comprehensive review, update and consolidation of all existing water services legislation and facilitates the establishment of a comprehensive supervisory regime to ensure compliance with specified performance standards.

Kildare is served by circa 37 wastewater treatment plants. The largest wastewater treatment plants are located at Osberstown and Leixlip. Wastewater collection and treatment capacity has struggled to keep pace with development and many networks and plants in the county are operating at capacity. In 2017, both Osberstown and Leixlip plants were upgraded however a significant proportion of this capacity has been absorbed by a large industrial connection and headroom capacity for other developments is limited. Irish Water is currently working on the next stage of the scheme, upgrading the sewer network. These upgrades will ensure the network has enough capacity for future growth and will reduce the risk of overflows during storms. Irish Water is working in several locations across Kildare, including Sallins, Clane, Prosperous, Naas, Johnstown, Kill, Newbridge, Kilcullen, Athgarvan, Carragh and the Curragh. The provision of treatment and network capacity is imperative to address water quality and wastewater treatment issues to facilitate development.

In the longer term, Irish Water will be looking at regional level solutions for the provision of wastewater infrastructure. The county is dependent on strategic national and regional solutions to the provision of water and wastewater infrastructure. The development of a new regional water supply source and the implementation of the recommendations of the Greater Dublin Strategic Drainage Study are central to the long-term sustainable development of the county.

The Greater Dublin Strategic Drainage Study delivered an overview of the performance of the drainage infrastructure in the region's catchments and proposed infrastructural improvement works to facilitate the anticipated future growth in the catchment to 2031. Irish Water, with the support of Kildare County Council, now manages the major and minor capital works for combined (surface water) and wastewater networks.

Sustainable Urban Drainage Systems (SuDS) are advocated within the Greater Dublin Strategic Drainage Study with an objective to ensure that any future development does not increase flooding or pollution of rivers. The system aims to mimic the natural drainage of a site to minimise the effect of a development on flooding and pollution of waterways.

A Rural Water Strategic Plan is in place so that synergies with Irish Water's 25-year Water Services Strategic Plan and Irish Water's Capital Investment Plans can be met efficiently and effectively in rural County Kildare. 15% of the population of the county is served by group water schemes and private wells.

As outlined in **Section 5.5**, County Kildare is traversed by a number of ecologically sensitive watercourses. Only clean, uncontaminated surface waters should leave the study area and drain to the river network. Treated effluent from wastewater treatment plants (WWTPs) discharging to any of the watercourses across the county should comply at all times to the requirements of the Urban Wastewater Treatment Directive and Water Framework Directive. Development in the study area must be in line with current available capacity in the relevant WWTP. This will be examined further in the undertaking of the SEA.

5.9.4 Transport Infrastructure and Facilities

The transportation system caters for the movement of communities and businesses. National and regional transport policy recognises that current transport trends in Ireland and the GDA, in particular levels of car use, are unsustainable and that a transition towards more sustainable modes of transport is required.

Kildare County Council recognises the progress made in the national public transport network over the past number of years, while acknowledging that deficiencies still exist within County Kildare. Mobility is considered to have a strong impact on climate change. As part of the draft Plan considerations will be given to encourage people to walk, cycle and use of public transport as well as implement sustainable ways of transport (i.e., EV) and reduce the need to travel.

Kildare has a widespread transport network with many of the main transportation corridors linking Dublin to the rest of the country passing through County Kildare. The M4 runs east-west along the northern boundary of the county, the M7 runs diagonally on the northeast-southwest axis through the centre of the county and the M9 runs southwards to Castledermot, Carlow and onwards.

There are four mainline railway passenger services traversing the county, the Sligo, Cork/Limerick, Galway and Waterford lines and two suburban services linking Kildare to Heuston Station and Maynooth to Connolly Station.

Many residents of Kildare commute for employment. While 60% of those in employment have jobs within the county, over 40% travel outside of the county to their job. There is a significant level of commuting into the north-eastern part of the county where there is a concentration of major employers. Dublin is the dominant employment destination with over 72% of outward Kildare commuters working in Dublin City Centre, South Dublin, Fingal, Dun Laoghaire Rathdown and Meath. Other commuting routes include connections to adjacent towns such as Carlow and Portlaoise in the south of the county.

Some 66% of commuters in County Kildare use private car transport. 18% of commuters use bus and/or rail for their daily commute. 16% of commuters walk or cycle to work, school or college. Walking and cycling trends vary across the county. This highlights the difference in the convenience of walking or cycling as an option, due to the level of connectivity, road safety and quality of facilities provided.

The improvement of public transport service and availability to the main centres of employment and retail primarily in Dublin is key to encouraging commuters to choose alternative modes of transport other than private cars. As new employment opportunities develop in the County, particularly in the growth centres of Athy, Naas, Newbridge, Clane and Kilcock the challenge will also be to make these towns more accessible.

As outlined in the draft Kildare CDP, the Council is committed to focussing on the need to underpin the planning process with an integrated approach to sustainable transport (KCC, 2022).

The Council will endeavour to ensure that the accessibility of all areas will improve and will co-operate with the relevant statutory agencies and organisations in the achievement of national and regional policy. The Council is committed to the provision of sustainable transportation options throughout Kildare, whilst also providing for increased vehicular trips in the county through road improvement and management of demand where possible. The Council will be guided by the sustainable transport principles set out in the NTA Transport Strategy for the Greater Dublin Area 2016-2035 (NTA, 2016).

5.9.5 Waste Management

Waste and recycling bin collection services have been privatised in County Kildare for the past 15 years. The following waste collectors currently provide these services:

- AES;
- Mahons Recycling;
- Oxigen;
- Ray Whelan; and
- Thorntons.

A number of facilities are licensed by the EPA in County Kildare under waste licensing legislation, refer to **Table 5.9.1**.

Table 5.9.1 Waste licensed facilities

Name	Location	Reg No.
South Dublin County Council	Arthurstown Landfill, Arthurstown, Kill, Kildare.	W0004-04
Kildare County Council	Silliot Hill Landfill, Silliot Hill and Brownstown, Kildare.	W0014-01
Neiphin Trading Limited	Kerdiffstown, Naas, Kildare.	W0047-02
Kilcullen Landfill Limited	Kilcullen Landfill Limited, Brownstown and Carnalway, Kilcullen, Kildare.	W0081-04
Bushbury Ltd	The Lands, Pollardstown, The Curragh, Co. Kildare	W0098-01
Returnbatt Limited	Returnbatt Limited, Old Mill Industrial Estate, Kill, Co. Kildare	W0105-01
Yellow Bins (Waste Disposal) Limited	Yellow Bins (Waste Disposal) Ltd, Donore, Caragh, Kildare.	W0114-01
Carbury Compost Limited	Carbury Compost Limited, Drummin, Carbury, County Kildare	W0124-01
KTK Sand & Gravel Limited	KTK Sand & Gravel Ltd, Kimmeens, Ballymore Eustace West and Coghlanstown East, Kildare.	W0156-01
Brivin Enterprises Limited	Westside Waste, Blacklion, Dublin Road, Maynooth, Kildare.	W0162-01

Name	Location	Reg No.
Greenstar Holdings	Usk Residual Landfill, Usk, Kilcullen, Co Kildare	W0168-01
Kildare County Council	Kilcock Civic Amenity Centre, Bawnogues, Common West, Kilcock, Kildare.	W0176-01
Padraig Thornton Waste Disposal Limited	Calf Field Integrated Waste Management Facility, Calf Field, Ballynadrumny, Co Kildare	W0179-01
Bord na Mona Public Limited Company	Bord na M6na Plc (Kilberry), Kilberry, Athy, Kildare.	W0198-01 (IED)
Bord na Mona Public Limited Company	Drehid Waste Management Facility, Killinagh Upper, Naas, Kildare.	W0201-04 (IED)
Behans Land Restoration Limited	Blackhall Soil Recovery Facility, Blackhall, Punchestown, Naas, Kildare.	W0247-01
Mr John Morrin	Mr John Morrin, Wolfestown, Eadestown, Naas, Kildare.	W0251-01
Walshestown Restoration Ltd.	Walshestown Restoration Ltd, Walshestown, Blackhall, Tipperkevin and Bawnoge, Naas, Kildare.	W0254-01
Sand & Gravel Merchants Limited	Sand & Gravel Merchants Ltd, Thornberry, Kill, Kildare.	W0264-01
Glassco Recycling Limited	Glassco Recycling Limited, Unit 4 Osberstown Industrial Park, Caragh Road, Naas, Co Kildare.	W0279-02
Bord na Mona Public Limited Company	Drehid Mechanical Biological Treatment (MBT) Facility, Coolcarrigan, Drummond, Carbury, Kildare.	W0283-01 (IED)
N&C Enterprises Limited	N&C Enterprises Limited, The Pit, Kilmeage, Naas, Kildare.	W0292-01
Kildare Sand & Gravel Limited	Kildare Sand & Gravel Limited, Boherkill, Rathangan, Kildare.	W0295-01
GCHL Limited	GCHL Limited, Ballinderry, Carbury, Naas, Kildare.	W0298-01

The Waste Facility Permit and the Certificate of Registration Database is a register for waste facility permits and certificates of registration issued by local authorities under the Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007, as amended.

According to the Local Authority Waste Facility Register, there are 25 licensed waste facilities within County Kildare. These are listed in **Table 5.9.2**.

Table 5.9.2 Licensed Waste Facilities in County Kildare

Authorisation Reference	Name
WFP-KE-10-0064-01	Cleary Compost & Shredding Ltd
WFP-KE-16-0083-01	Callan Sand & Gravel Limited
WFP-KE-17-0086-01	RPM Greentech Ireland Ltd

Authorisation Reference	Name
COR-KE-17-0027-01	Martin Coyne & Adele Clinton
COR-KE-18-0030-01	Merlon Contractors Limited
WFP-KE-18-0093-01	Bolton Biofuels Ltd
COR-KE-18-0031-01	Robert Wilson-Wright
WFP-KE-18-0087-01	Arkil Limited
WFP-KE-18-0092-01	Liam Kelly
WFP-KE-18-0090-01	Oliver Richardson
WFP-KE-18-0088-01	Corcoran Auto Body Works Ltd
WFP-KE-19-0094-01	Irish Lamp Recycling Co Ltd
WFP-KE-19-0095-01	Garden Waste Recycling Ltd
COR-KE-19-0033-01	Tommy & Dawn Lynch
WFP-KE-20-0098-01	Robert Wilson Wright
WFP-KE-20-0097-01	Callan Recycling Ltd
WFP-KE-20-0099-01	Shannon Valley Plant Hire Unlimited Company
WFP-KE-20-0102-01	Office of Public Works
WFP-KE-19-0096-01	Nordvale Ltd
WFP-KE-20-0104-01	Nickolas Walsh
WFP-KE-20-0101-01	J Ryan Haulage Ltd
WFP-KE-20-0103-01	J Ryan Haulage Ltd
COR-KE-20-0036-01	Robertstown GFC
WFP-KE-20-0105-01	Wilton Scrap Metals Ltd
COR-KE-20-0037-01	Kollect on Demand Ltd
WFP-KE-21-0106-01	G & J O'Neill Enterprises Ltd
WFP-KE-21-0107-01	All Spares (Kildare) Ltd
COR-KE-21-0038-01	Ballymore Ireland Contracting Services Ltd
WFP-KE-21-0108-01	Eire Og Corra Choill Hurling Club
COR-KE-21-0039-01	J Ryan Haulage Ltd.
WFP-KE-21-0110-01	Apex Construction & Roofing Ltd
WFP-KE-21-0109-01	Copart Vehicle Auctions Ireland Ltd.,
WFP-KE-20-0100-01	Aford Ltd
COR-KE-21-0040-01	Warren Downey
COR-KE-22-0041-01	Big Bin Waste Tech Limited.

5.10 Sensitivity Mapping

In order to identify where most sensitivities in County Kildare occur, a number of the environmental sensitivities described above were weighted and mapped overlapping each other. The weighting system applied is adopted from the EPA report 'GISEA Manual Improving the Evidence Base in SEA', as follows:

- SACs and SPAs: 10 points;
- pNHAs: 5 points;
- Protected Structures: 10 points;

- Recorded Monuments: 10 points;
- Archaeological Conservation Areas: 10 points;
- Surface Water Status Bad and Poor: 10 points;
- Surface Water Status Moderate, Good and High: 5 points;
- Ground Water Status Bad and Poor: 10 points;
- Ground Water Status Moderate, Good and High: 5 points;
- Prospects and Views: 10 points;
- Groundwater Vulnerability Extreme or Rock: 10 points;
- Groundwater Vulnerability High: 5 points;
- Sensitive Landscape Areas: 10 points; and
- Peat Soils; 10 points

The scores for each are added together in order to determine overall vulnerability as shown in **Table 5.10.1**.

Table 5.10.1 Environmental Sensitivity Overlay Mapping Vulnerability Classes

Overlay Results	Category
0-5	No sensitivity (i.e. areas without any environmentally sensitive features)
5-15	Low-sensitivity areas
20-25	Moderate-sensitivity areas
30-35	Elevated-sensitivity areas
40-45	High-sensitivity areas
50-60	Extreme-sensitivity areas
>65	Acute-sensitivity areas (i.e., severe sensitivity due to a significant number of overlapping environmental aspects and a clear likelihood of cumulative effects)

This classification assumes that the sensitivity of an area increases significantly when two or more highly sensitive environmental factors overlap. A score of 5 represents one sensitive environmental factor occurring. A score of 10 indicates two sensitive or one highly sensitive factor; a score of 20 encompasses four sensitive, two highly sensitive or one highly sensitive and two sensitive environmental factors, and so on. In light of this categorisation, each pixel reflects a sensitivity score which determines the relative sensitivity to impact of those lands.

The outcome of sensitivity overlay mapping will be used to inform the draft Plan and is presented in **Figure A19 of Appendix A**. Most of the County area is identified as being of low sensitivity. The greatest extent of higher sensitivity categorisations occurs in the centre of the County, concentrated between the areas of Kildare Town, Kilcullen and Newbridge. This is due to a variety of overlapping and related factors including soil type (peat), groundwater status (bad), landscape value (exceptional), ecological designation (proposed Natural Heritage Area) and geological designation (County Geological Heritage Area).

6 SEA Objectives, Targets and Indicators

6.1 Introduction

The SEA is designed to assess the potential environmental effect of the policies of the draft Plan against the environmental baselines established.

The policies and associated recommendations are assessed against a range of established environmental objectives and targets. Indicators that are recommended in the SEA are utilised over the lifetime of the draft Plan to quantify the level of impact that the policies and recommendations have on the environment.

6.2 SEA Objectives and Targets

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the draft Plan can be assessed. If complied with in full, SEOs would result in an environmentally positive, or neutral impact from realisation of the draft Plan. The SEOs are set out under a range of topics and are used as standards against which the provisions of the draft Plan can be evaluated in order to help identify areas in which potential significant adverse impacts may occur. SEOs are distinct from the objectives of the draft Plan and are developed from international and national policies which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and which are intended to be implemented across the country.

The SEA Directive requires that the evaluation of the draft Plan be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. In compliance with this requirement the SEA will focus upon the most relevant aspects of the environmental characteristics. The SEOs are linked to indicators which can facilitate monitoring the environmental effects of the draft Plan as well identifying targets which the draft Plan can help work towards.

6.3 SEA Indicators

The assessment of aims and commitments with respect to the Environmental Objectives and Targets is required to be measurable. The Environmental Indicators need to be capable of the following:

- Describing trends in the baseline environment.
- Demonstrating the likely significant effect of the implementation NIP.
- Being used in a monitoring programme.
- Providing an early warning of significant unforeseen adverse effects.
- Prioritising key environmental effects.
- Ensuring the number and range of environmental indicators are manageable in terms of time and resources.

Table 6.3.1 SEA Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
Population and Human Health	<ul style="list-style-type: none"> • Protect and enhance human health and wellbeing. • Promote economic growth. • Consolidate growth and limit urban sprawl. 	<ul style="list-style-type: none"> • To implement the CDP, which will contribute towards and facilitate economic growth. • No significant deterioration in human health as a result of environmental factors. • Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. • To improve access to sustainable modes of transport • Promote compact growth. • Facilitate attractive environments within our urban settlements, utilise brownfield over greenfield sites and resist where possible urban generated rural housing unless genuine need exists. • Avoid developing land which is not likely to be serviced within the lifetime of the Development Plan. 	<ul style="list-style-type: none"> • Population growth statistics of settlements identified in the Core Strategy. • Number of new houses within settlement boundaries • Economic Growth Statistics. • Health statistics of the County. • Proportion of people reporting regular cycling / walking to school and work above previous CSO figures. • Statistics on access to sustainable modes of transport. • Number of compliances of waste-water infrastructure to legislation/regulations/conditions for relevant licenses, permits etc. for discharges. • Number of compliances of water supply schemes with relevant legislation/regulation/conditions for abstraction and consumption. • Number of compliances of infrastructure projects to relevant legislation/regulation/conditions re-noise, odour and/or air quality. • Number of compliances of waste management sites. • Implementation of the Noise Action Plan and relevant limit values.
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> • To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species. • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function. • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species. 	<ul style="list-style-type: none"> • No loss of protected habitats and species during the lifetime of the Plan and seek to restore status where possible. • That biodiversity, ecosystem services and green/blue infrastructure provisions are integrated into all decision making across the Plan and within lower-level plans, Council internal guidance documents, planning application considerations, and Council-led projects. • Support features which function as stepping stones for migration, dispersal and genetic exchange of wild species. • Identify invasive species in the County and develop appropriate management techniques for their control. • Implement a Green Infrastructure Strategy for the County including the protection of green and blue 	<ul style="list-style-type: none"> • The number and condition of European sites, and the maintenance of conservation objectives. • The status of water quality in the County's water bodies. • The number of projects that have integrated ecosystem services considerations. • The number of EIAs and AAs as relevant for new projects. • The number of compliances of planning permissions with CDP, measures providing for the protection of biodiversity and flora and fauna. • The number of provisions of green/blue infrastructure. • The number of developments permitted in proximity/within European sites/sites of ecological importance.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
	<ul style="list-style-type: none"> Enhance biodiversity in line with the National Biodiversity Plan and its targets To protect, maintain and conserve natural capital. 	<ul style="list-style-type: none"> ecological corridors and linkages. Screen for and undertake EIA and AA as relevant for new projects. 	
Land and Soil	<ul style="list-style-type: none"> Protect soils against pollution, and prevent degradation of the soil resource. Promote the sustainable use of infill and brownfield sites over the use of greenfield. Safeguard areas of prime agricultural land and designated geological sites. 	<ul style="list-style-type: none"> To facilitate compliance with growth targets for delivery of housing within the existing built-up footprint of settlements and urban areas. Dispose of contaminated material in compliance with EPA guidance and waste management requirements. Minimise the use of greenfield land. Reduce the rate of land use change on greenfield lands arising from urban sprawl and urban generated rural housing. Ensure sustainable extraction of non-renewable sand, gravel and rock deposits and the reuse and recycling of construction and demolition waste. 	<ul style="list-style-type: none"> Number of instances where contaminated material generated from brownfield and infill must be disposed of. Number of planning applications granted on brownfield and/or infill sites. Volume of construction and demolition waste recycled. Status/risk of groundwater waterbodies under the WFD. Number of application granted for soil importation/inert waste facilities Number of planning permissions granted, and area of land permitted for excavation and extraction of non-renewable sand, gravel and rock deposits.
Water	<ul style="list-style-type: none"> Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive and Marine CDP Framework Directive. Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas. Integrate sustainable water management solutions (such as SUDS, porous surfacing, etc.) into new projects 	<ul style="list-style-type: none"> All waters within the plan area to achieve the requirements of the Water Framework Directive and the relevant River Basin Management Plan by 2027. Achieve compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC (protection of groundwater). Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk. Integrate sustainable water management solutions (such as SUDS, porous surfacing, etc.) into new projects as relevant. Implementation of flooding projects. 	<ul style="list-style-type: none"> Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD. Number of incompatible developments permitted within flood risk areas. The number of sustainable water management solutions (such as SUDS, porous surfacing, etc.) into new projects.
Air, noise and Climatic Factors	<ul style="list-style-type: none"> To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from transport. Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of 	<ul style="list-style-type: none"> Decrease in proportion of journeys made by private fossil fuel-based car compared to previous CSO figures. Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. 	<ul style="list-style-type: none"> Number of compliances with EPA emission limits for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter. Number of compliances with existing legislation/regulations/conditions for air quality e.g. IPPC/IE licences.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
	<p>renewable energy and energy efficiency.</p> <ul style="list-style-type: none"> • Promote continuing improvement in air quality. • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution. • Meet Air Quality standards for the protection of human health and vegetation • Significantly decrease noise pollution and move closer to WHO recommended levels. • To minimise emissions of greenhouse gases. • Integrate sustainable design solutions into infrastructure. • Contribute towards the reduction of greenhouse gas emissions in line with national targets. • Promote development resilient to the effects of climate change. • Promote the use of renewable energy, energy efficient development and increased use of public transport. 	<ul style="list-style-type: none"> • Improvement in Air Quality trends, particularly in relation to transport related emissions of NOx and particulate matter. • Increase number of cycle lanes and pedestrian routes in the plan area. • Implementation of Noise Action Plans. • To implement the CDP, which will contribute towards and facilitate climate action. • Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050. • Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the CDP. • Contribute towards the target of aggregate reduction in carbon dioxide (CO2) emissions in accordance with the Climate Action Plan. • To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating. 	<ul style="list-style-type: none"> • Travel patterns and the number of modes of transport within the county. • Number of new air monitoring stations in the county. • Implementation of the CDP, which will contribute towards and facilitate climate action and the relevant targets for emission reductions. • The quantity of GHG emission changes over the plan period. • Energy consumption, the amount of uptake in renewable options and solid fuels for residential heating. • Proportion of journeys made by private fossil fuel-based car compared to previous levels. • Proportion of people reporting regular cycling / walking to school and work above previous CSO figures.
<p>Cultural Heritage</p>	<p>Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage.</p>	<ul style="list-style-type: none"> • Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the CDP. • Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the CDP. • No permitted development which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations 	<ul style="list-style-type: none"> • Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the CDP. • Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the CDP. • Archaeological Impact Assessments, and/or the number and types of archaeological investigations undertaken.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
		<p>Areas and landscape features.</p> <ul style="list-style-type: none"> To increase the number of uninhabited and derelict structures that are restored. 	<ul style="list-style-type: none"> Recorded numbers of non-designated built heritage e.g., vernacular buildings. The number of design statements/public realm plans/Masterplans undertaken for settlements/opportunity sites. Visitor numbers for iconic cultural heritage sites. Number of literary, musical, artistic and other cultural initiatives undertaken in the county.
Landscape	To implement the identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention.	<ul style="list-style-type: none"> No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the CDP. 	<ul style="list-style-type: none"> Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the CDP. Number of planning permissions granted in areas of high value landscape. Number of permissions granted within 500m of a scenic route.
Material Assets	<ul style="list-style-type: none"> To promote sustainable development that matches existing and new infrastructure with the proposed population growth for the county. 	<ul style="list-style-type: none"> Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. To improve access to sustainable modes of transport. Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes. Reduce waste sent to landfill and increase waste sent for recycling and energy generation. Not to permit development where it would result in a WWTP exceeding the terms of its discharge license. Promote population growth in areas served by urban wastewater treatment plants and public water supplies in accordance with the National Planning Framework. Support septic tank inspections in accordance with the Domestic Wastewater Treatment Systems National Inspection Plan. 	<ul style="list-style-type: none"> The number of completed infrastructure projects identified in the KCDP. Proportion of people reporting regular cycling / walking to school and work above previous CSO figures. The number and extent of Water Treatment Plans on EPAs Remedial Action List. The amount of access to sustainable modes of transport. Roll out of National Broadband Plan - Number of households serviced and % of households with the minimum broadband speed of 30Mbps and % of households with the target broadband speed of 100Mbps. The number of renewable energy projects permitted and enabling/supporting infrastructure provided.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
		<ul style="list-style-type: none"> • Increase in community assets, facilities and services in an area. 	

7 Alternatives Considered

7.1 Introduction

Article 5.1 of the SEA Directive requires the Environmental Report to consider “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme”. Annex 1(h) of the SEA Directive, as replicated in paragraph (h) of Schedule 2B of the Planning and Development Regulations 2001, as amended, requires “an outline of the reasons for selecting the alternatives”. This suggests that there are three stages to the consideration of alternatives:

1. Identify reasonable alternatives; (**Refer to Section 7.2**)
2. Evaluate and compare the alternatives; (**Refer to Section 7.3**)
3. Provide reasons for the choice of preferred alternative(s) (**Refer to Section 7.4**)

The alternatives available for the draft Plan are limited by the provisions of higher-level planning objectives, including those of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region. These documents set out various requirements for the content of the draft Plan including on topics such as land-use zoning, residential unit requirements and the sustainable development of rural areas. Further, consideration of a ‘do nothing’ alternative is not considered as this is not feasible for a County Development Plan. Given these restrictions, three plan alternatives have been formulated for the delivery of c. 9,144 residential units required between 2023 and 2029 as outlined in **Section 7.2**.

The following considerations were relevant in considering the plan alternatives:

- Population and Housing growth forms a central part of the Core Strategy complying with National and Regional Planning Policy. Monitoring is set at a strategic level which examines the function of each settlement.
- Residential development is directed to lands already zoned for residential use in the current plan or lands within existing defined settlements.
- The Council will continue to monitor the housing and employment output in all areas, especially as part of the upcoming 2022 Census which will support the Development Plan Monitoring and Implementation review (or variations as they occur)

7.2 Identification of Reasonable Alternatives

7.2.1 Scenario 1: Business as Usual

There would be very strong, but weakly co-ordinated growth within and adjacent to major settlements within the Strategic Transportation Corridors and the Metropolitan Areas of the Northeast. Elsewhere there would be markedly weaker growth due to the lack of integrated provision of services and accommodation.

7.2.2 Scenario 2: Mixed Planning

There would be very strong growth within the Strategic Transportation Corridor and the Metropolitan Areas of the Northeast with co-ordination of key infrastructural resources in these areas. Elsewhere however an ad hoc approach to the future land use development of the county would result in the location of residential, economic and supporting community infrastructure in an unsustainable manner that would promote development on the periphery of towns, villages and settlements as well as sporadically throughout the countryside at the expense of developing sites that are well located, close to public transport hubs or along public transport routes. There would be strong and persistent patterns of social and economic imbalance between the north-east and southern parts of the county.

7.2.3 Scenario 3: Plan-Led Approach

A plan led approach would reflect both Government policy as established through the National Planning Framework and Regional policy through the Regional Economic and Spatial Strategy for the Eastern Region including Kildare. This approach would be reflected in the draft Kildare County Development Plan primarily through compact growth at a level commensurate with the housing and population targets of the proposed Settlement Hierarchy removing undeveloped, zoned parcels of land that are located on the edges of settlements and replacing them, as appropriate, with more centrally located, more sustainable infill and greenfield sites. In this regard the Settlement Strategy would be devised to primarily direct growth to the identified Key Towns but also to those areas that would benefit from either the delivery of key pieces of infrastructure or the development of key strategic sites over the lifetime of this Plan. In order to reduce the unsustainable trends for one off housing in the rural countryside the Plan would also identify a number of areas deemed suitable for serviced sites that are centrally located within identified towns, villages and rural settlements, as appropriate. This Scenario also envisages that the planning framework provided by the County Development Plan, the Kildare 2025 Economic Development strategy and the emerging Kildare Local Economic and Community Plan would, collectively, provide for the planned residential and supporting economic and community facilities in sustainable locations throughout the county. Reliance on the use of private modes of transport would be reduced through specific objectives and targets that would increase more sustainable modes of travel within and between settlements, in order to positively enhance the lives of all the citizens of Kildare.

7.3 Evaluation and Comparison of Alternatives

7.3.1 Introduction

This section provides a detailed description and assessment of those alternative development scenarios outlined in **Section 7.2**.

7.3.2 Scenario 1: Business as Usual

Scenario 1 relates to ‘business as usual’, or continuation of the existing development trends in Kildare, resulting in markedly weaker growth due to the lack of integrated provision of services and accommodation.

This development Scenario is likely to result in a negative effect on the population through failure to deliver new residential and employment opportunities in the County. Further, the lack of integrated services associated with this Scenario is likely to result in a negative effect on Material Assets.

However, the weak growth objectives of Scenario 1 would likely give rise to limited development, which is likely to result in an overall positive environmental effect.

Scenario 1 also relates to very strong, but weakly co-ordinated growth within and adjacent to major settlements within the Strategic Transportation Corridors and the Metropolitan Areas of the north-east. For the purposes of this assessment, and in the absence of additional information regarding the provision of strong growth within the Strategic Transportation Corridor, a negative environmental effect is identified in that there is potential for increased reliance on private vehicle use and greenfield, linear development. The provision of strong growth within the Metropolitan Area of the north-east however, is likely to result in a positive environmental effect through the encouragement of compact growth in this area.

7.3.3 Scenario 2: Mixed Planning

Scenario 2 relates to very strong growth within the Strategic Transportation Corridor and the Metropolitan Areas of the north-east with co-ordination of key infrastructural resources in these areas.

For the purposes of this assessment, and in the absence of additional information regarding the provision of strong growth within the Strategic Transportation Corridor, an overall negative environmental effect is identified in that there is potential for increased reliance on private vehicle use and greenfield, linear development. The provision of strong growth within the Metropolitan Area of the north-east however, is likely to result in a positive environmental effect through the encouragement of compact growth in this area.

Scenario 2 otherwise relates to an ad-hoc approach to the future land use development of the county. Development would be facilitated on the periphery of towns, villages and settlements as well as sporadically throughout the countryside.

Scenario 2 is ultimately considered to have the potential to result in an overall negative environmental effect. Greenfield development on the periphery of Key Towns has the potential to result in a significant negative impact on the environment, in general, and is not considered a desirable development scenario.

Urban sprawl and the prevalence of low-density development on the periphery of urban centres works to exacerbate problems of over-consumption of green-field land, ecological degradation, dependence on private transport and long commuting distances. This Scenario would result in continued and increased reliance on private vehicle use, subsequently resulting in negative impacts on air, noise and climate.

Scenario 2 has the potential to result in a positive impact on population and human health will occur through the provision of residential opportunities. However, there would be strong and persistent patterns of social and economic imbalance between the north-east and southern parts of the county.

7.3.4 Scenario 3: Plan-Led Approach

This Scenario relates to compact growth through primarily directing growth to the identified Key Towns in the County. This would consequently support economic and community facilities in sustainable locations throughout the county.

Most of the Key Towns in Kildare are already zoned for development, so by focusing on the compact growth of these areas, rather than zoning new greenfield land for development on the periphery of towns or in the countryside, additional environmental impacts can be avoided. This is generally beneficial in that it limits sprawl of the town, maintains the urban/rural distinction, reduces habitat loss, fragmentation or destruction and provides for large areas of open space with the environs of the plan area. High density developments can, however, result in a negative effect on the landscape and visual setting of an area.

A positive impact on population and human health is likely to occur through the fulfilment of new residential and employment opportunities. However high population density arising from extensive compact growth throughout Kildare could put a strain on material assets such as wastewater treatment and water supply infrastructure and exacerbate landscape and visual impacts in town centres.

Scenario 3 would also result in the reduction of reliance on the use of private modes of transport through specific objectives and targets that would increase more sustainable modes of travel within and between settlements, in order to positively enhance the lives of all the citizens of Kildare.

Reduction of reliance on private modes of transport and the encouragement of a modal shift towards sustainable forms of transport is likely to result in a positive effect on air, noise and climate through the reduced dependence on fossil fuels.

7.4 Preferred Alternative

The emerging preferred development scenario for the Kildare CDP from an environmental perspective is Scenario 3: Plan- Lead Approach.

The results of the Alternatives Assessment are contained in **Table 7.4.1**. The assessment process categorises environmental effects using the ratings outlined in **Table 8.2.1** which are based on the impact assessment criteria defined by the EPA for environmental impact assessment.

Table 7.4.1 Alternatives Assessment

Scenario	Description	SEA Environmental Objectives							
		Population & Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Scenario 1	There would be very strong, but weakly co-ordinated growth within and adjacent to major settlements within the Strategic Transportation Corridors and the Metropolitan Areas of the Northeast. Elsewhere there would be markedly weaker growth due to the lack of integrated provision of services and accommodation.	Red	Green	Green	Green	Green	Green	Green	Red
Scenario 2	There would be very strong growth within the Strategic Transportation Corridor and the Metropolitan Areas of the Northeast with co-ordination of key infrastructural resources in these areas. Elsewhere however an ad hoc approach to the future land use development of the county would result in the location of residential, economic and supporting community infrastructure in an unsustainable manner that would promote development on the periphery of towns, villages and settlements as well as sporadically throughout the countryside at the expense of developing sites that are well located, close to public transport hubs or along public transport routes. There would be strong and persistent patterns of social and economic imbalance between the north-east and southern parts of the county.	Yellow	Red	Red	Red	Red	Yellow	Red	Red
Scenario 3	A plan led approach would reflect both Government policy as established through the National Planning Framework and Regional policy through the Regional Economic and Spatial Strategy for the Eastern Region including Kildare. This approach would be reflected in the Draft Kildare County Development Plan primarily through compact growth at a level commensurate with the housing and population targets of the proposed Settlement Hierarchy removing undeveloped, zoned parcels of land that are located on the edges of settlements and replacing them, as appropriate, with more centrally located, more sustainable infill and greenfield sites. In this regard the Settlement Strategy would be devised to primarily direct	Green	Green	Green	Green	Green	Green	Yellow	Yellow

		SEA Environmental Objectives							
	<p>growth to the identified Key Towns but also to those areas that would benefit from either the delivery of key pieces of infrastructure or the development of key strategic sites over the lifetime of this Plan. In order to reduce the unsustainable trends for one off housing in the rural countryside the Plan would also identify a number of areas deemed suitable for serviced sites that are centrally located within identified towns, villages and rural settlements, as appropriate. This Scenario also envisages that the planning framework provided by the County Development Plan, the Kildare 2025 Economic Development strategy and the emerging Kildare Local Economic and Community Plan would, collectively, provide for the planned residential and supporting economic and community facilities in sustainable locations throughout the county. Reliance on the use of private modes of transport would be reduced through specific objectives and targets that would increase more sustainable modes of travel within and between settlements, in order to positively enhance the lives of all the citizens of Kildare.</p>								

8 Assessment of Significant Effects

8.1 Introduction

The approach used for assessing likely significant effects was objectives led. The assessment was primarily qualitative in nature, with some assessment based on expert judgement. This qualitative assessment compares the likely effects against the Strategic Environmental Objectives to see which aims and commitments of KCC meet the Strategic Environmental Objectives and which, if any, contradict these. Particular reference was made to the potential for cumulative effects in association with other relevant plans and programmes.

Regard was also had to the need for the sustainable development of ecological resources (including the conservation of fish and other species of fauna and flora, habitats and the biodiversity of water ecosystems and commercial and natural fisheries) as economic resources

8.2 Assessment of Environmental Effects

The environmental effects of the draft CDP aims and commitments were assessed with respect to the existing environmental baseline as outlined in **Section 5** and the environmental objectives listed in **Section 6**. The assessment process categorises environmental effects using the ratings outlined in **Table 8.2.1** which is based on the impact assessment criteria defined by the EPA for environmental impact assessment.

Table 8.2.1 Significance Ratings

Significance of Effects	
Neutral	Neutral
Positive	Positive
Negative	Negative
Uncertain	Uncertain

8.3 Principal Environmental Effects

The environmental effects of the draft CDP were assessed, having regard to the baseline environmental assessment (**Section 5**). This assessment outlines an unmitigated scenario. The assessment of Volume 1 of the draft CDP is set out in **Table B1** in **Appendix B**. The assessment of Volume 2 of the draft CDP is set out in **Section 8.3.2**

8.3.1 Volume 1 of the Draft CDP

The matrix in **Table B1** in **Appendix B** represents the assessment of objectives included in Volume 1 of the draft CDP. Where potential effects are identified, it is

expected that these can be mitigated through the implementation of the mitigation measures outlined in **Section 9**.

8.3.2 Volume 2 of the Draft CDP

The matrix outlined in **Table 8.3.1** represents the assessment of the site-specific objectives for Small Towns and Environs in Kildare, as set out in Volume 2 of the draft CDP. The matrix outlined in **Table 8.3.2** represents the assessment of the site-specific objectives for Villages and Rural Settlements in Kildare, as set out in Volume 2 of the draft CDP. Where potential effects are identified, it is expected that these can be mitigated through the implementation of the mitigation measures outlined in **Section 9**.

Table 8.3.1 Assessment of Small Towns and Environs Objectives

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Overarching Small Towns and Environs Objectives								
GO1.	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO2.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO3.	Green	Blue	Blue	Blue	Green	Yellow	Green	Green
GO4.	Green	Green	Green	Green	Green	Blue	Green	Green
GO5.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO6.	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Yellow
GO7.	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Yellow
GO8.	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
GO9.	Green	Green	Green	Green	Green	Green	Green	Yellow
GO10.	Green	Blue	Blue	Blue	Blue	Green	Green	Blue
GO11.	Green	Blue	Blue	Blue	Green	Green	Blue	Blue
GO12.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO13.	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO14.	Blue	Green	Green	Green	Blue	Blue	Blue	Blue
GO15.	Blue	Green	Green	Green	Blue	Blue	Blue	Blue
GO16.	Blue	Green	Green	Green	Blue	Blue	Blue	Blue
GO17.	Blue	Blue	Blue	Blue	Blue	Green	Blue	Blue
GO18.	Blue	Blue	Blue	Blue	Blue	Green	Blue	Blue
GO19.	Green	Green	Green	Green	Green	Blue	Green	Green
GO20.	Green	Green	Green	Green	Green	Blue	Green	Green
GO21.	Green	Green	Green	Green	Green	Blue	Green	Green
GO22.	Green	Yellow	Yellow	Yellow	Green	Blue	Yellow	Blue
GO23.	Green	Green	Green	Green	Green	Green	Yellow	Green
GO24.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
GO25.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
GO26.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
GO27.	Green	Green	Green	Green	Blue	Blue	Blue	Green
GO28.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
GO29.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
GO30.	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
GO31.	Green	Green	Green	Green	Blue	Blue	Blue	Green
GO32.	Green	Red	Blue	Blue	Blue	Blue	Blue	Green

GO33.								
GO34.								

The overarching small towns and environs objectives will generally result in positive or neutral environmental effects as they largely support and mirror the objectives of volume one and the Core Strategy of the Kildare Draft County Development Plan and the principles of sustainable development. Potential negative effects are identified with regards developments that have the potential to continue or increase reliance on private vehicles and subsequently on Greenhouse Gas (GHG) emissions. Objective GO 32 also has the potential to result in a negative effect on biodiversity where public lighting is proposed to be installed in rural environments

ATHGARVAN

ST A1								
ST A2								
ST A3								
ST A4								
ST A5								
ST A6								
ST A7								
ST A8								
ST A9								
ST A10								
ST A11								
ST A12								
ST A13								
ST A14								
ST A15								
ST A16								
ST A17								
ST A18								

The development objectives for Athgarvan are likely to result in overall neutral and positive environmental effects. Uncertain environmental effects are identified for the purposes of this assessment where objectives relate to the encouragement and facilitation of tourism and recreational facilities and amenities in proximity to the river Liffey and the Curragh. It is recommended to the Council that prior to the development of any tourism initiatives such as these that environmental assessments- particularly assessments relating to biodiversity and water quality are carried out. Potential for negative environmental effects is identified with regards objective ST A134 which relates to the improvement of a regional road. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

CASTLEDERMOT

ST C1								
ST C2								
ST C3								
ST C4								
ST C5								
ST C6								
ST C7								
ST C8								
ST C9								
ST C10								
ST C11								
ST C12								
ST C13								
ST C14								
ST C15								

ST C16	Green	Yellow	Yellow	Yellow	Green	Yellow	Blue	Green
ST C17	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST C18	Green	Red	Red	Red	Red	Yellow	Red	Green
ST C19	Green	Red	Red	Red	Red	Yellow	Red	Green
ST C20	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST C21	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST C22	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST C23	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives for Castledermot are likely to result in overall neutral and positive environmental effects.

While the positive effects on the population and material assets are identified with regards proposed opportunity sites, an overall uncertain environmental effect is identified for the purposes of this assessment in the absence or further design information. Similarly uncertain environmental effects have been identified with regards objective STC13, which relates to the development of a new secondary school, as details on the site or location of the same is not known at this time.

Potential for negative environmental effects is identified with regards objective relating to road developments. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

DERRINTURN

ST D1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST D2	Green	Blue	Blue	Blue	Green	Blue	Green	Green
ST D3	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST D4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST D5	Green	Blue	Blue	Blue	Blue	Green	Blue	Blue
ST D6	Green	Green	Green	Green	Green	Yellow	Yellow	Green
ST D7	Blue	Green	Green	Green	Green	Blue	Blue	Blue
ST D8	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST D9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST D10	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST D11	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Green
ST D12	Green	Red	Red	Red	Red	Yellow	Yellow	Green
ST D13	Green	Blue	Blue	Green	Blue	Blue	Blue	Green
ST D14	Green	Blue	Green	Green	Blue	Blue	Blue	Green
ST D15	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST D16	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives for Derrinturn are likely to result in overall positive and neutral environmental effects. While the positive effects on the population and material assets are identified with regards proposed opportunity sites, an overall uncertain environmental effect is identified for the purposes of this assessment in the absence or further design information. Potential for negative environmental effects is identified with regards objective ST D12 which relates to road upgrade works around the Turn Inn. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

KILL

ST K1	Blue	Blue	Blue	Blue	Blue	Blue	Green	Green
ST K2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST K3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST K4	Green	Blue	Blue	Blue	Green	Yellow	Green	Green
ST K5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST K6	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST K7	Green	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Green
ST K8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST K9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue

ST K10	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST K11	Blue	Blue	Blue	Blue	Blue	Green	Blue	Blue
ST K12	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST K13	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
ST K14	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST K15	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST K16	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST K17	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST K18	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives for Kill are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects are identified for the purposes of this assessment in relation to objective ST K10 which relates to the expansion of established enterprises- in that the location and extent of such development is not yet known.

PROSPEROUS

ST P1	Green	Blue	Blue	Blue	Blue	Green	Green	Blue
ST P2	Green	Blue	Blue	Blue	Blue	Green	Green	Blue
ST P3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST P4	Green	Blue	Blue	Blue	Blue	Yellow	Yellow	Green
ST P5	Green	Blue	Blue	Blue	Green	Blue	Green	Blue
ST P6	Green	Blue	Blue	Blue	Green	Blue	Green	Blue
ST P7	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Blue
ST P8	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Blue
ST P9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST P10	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST P11	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST P12	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST P13	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
ST P14	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST P15	Blue	Green	Green	Green	Blue	Blue	Blue	Blue
ST P16	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
ST P17	Blue	Green	Green	Green	Blue	Blue	Blue	Blue
ST P18	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST P19	Green	Red	Red	Red	Red	Yellow	Red	Green
ST P20	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Green
ST P21	Green	Blue	Blue	Blue	Green	Blue	Blue	Blue
ST P22	Green	Yellow	Blue	Blue	Blue	Blue	Blue	Green
ST P23	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives for Prosperous are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects are identified for the purposes of this assessment with regards those objectives relating to the encouragement and facilitation of tourism development as well as social and community development. This is because the scale nature and location of such development, as well as information on the baseline environment is not known at this time. Objective and ST P19, which relates to road improvement works at the R403 regional road is likely to give rise to negative environmental effects in that they relate to road improvement works.

RATHANGAN

ST R1	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R2	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R3	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
ST R4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST R6	Green	Blue	Blue	Blue	Green	Blue	Green	Blue
ST R7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST R8	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST R9	Blue	Green	Green	Green	Blue	Green	Green	Blue

ST R10	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R11	Green	Blue	Blue	Blue	Blue	Yellow	Green	Green
ST R12	Green	Blue	Blue	Blue	Blue	Blue	Green	Green
ST R13	Green	Yellow	Yellow	Yellow	Blue	Yellow	Blue	Green
ST R14	Green	Green	Green	Green	Green	Green	Green	Green
ST R15	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST R16	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R17	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R18	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R19	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
ST R20	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R21	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R22	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R23	Green	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R24	Blue	Green	Blue	Blue	Blue	Blue	Green	Blue
ST R25	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
ST R26	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Green
ST R27	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST R28	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
ST R29	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
ST R30	Green	Red	Red	Red	Red	Yellow	Red	Green
ST R31	Green	Red	Red	Red	Red	Yellow	Red	Green
ST R32	Green	Red	Red	Red	Red	Yellow	Red	Green
ST R33	Green	Red	Red	Red	Red	Yellow	Red	Green
ST R34	Green	Blue	Blue	Green	Blue	Blue	Blue	Green
ST R35	Green	Blue	Blue	Green	Blue	Blue	Blue	Green
ST R36	Green	Green	Green	Blue	Blue	Blue	Blue	Blue

The development objectives for Rathangan are likely to result in overall positive and neutral environmental effects. While the positive effects on the population and material assets are identified with regards proposed opportunity sites, an overall uncertain environmental effect is identified for the purposes of this assessment in the absence or further design information Objectives STR30, STR31 and STR32 have the potential to give rise to negative environmental effects in that they relate to construction or realignment of regional roads. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Ladytown Environs

LE01	Green	Green	Green	Green	Blue	Blue	Blue	Blue
LE02	Yellow	Blue	Blue	Blue	Blue	Blue	Blue	Blue

The development objectives for Ladytown Environs are likely to result in positive and neutral environmental effects

Blessington Environs

BE01	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
BE02	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
BE03	Green	Green	Green	Green	Blue	Blue	Blue	Blue
BE04	Green	Green	Green	Green	Blue	Blue	Blue	Blue
BE05	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Green

The development objectives for Blessington Environs are likely to result in positive and neutral environmental effects

Table 8.3.2 Assessment of Villages and Rural Settlements

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Overarching Policies and Objectives								
V GP 1	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
V GO1	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
V GO2	Green	Blue	Blue	Blue	Blue	Blue	Green	Green
V GO3	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
V GO5	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
V GO6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V GO7	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V GO8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V GO9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V GO10	Yellow	Blue	Blue	Blue	Blue	Blue	Blue	Green
V GO11	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
<p>The overarching policies and objectives for villages and rural settlements in Kildare are likely to result in overall neutral and positive environmental effects. The more generalized objectives such as those relating to the facilitation of population growth or housing demands have been identified as ‘uncertain’ for the purposes of this assessment in the absence of further information. Similarly, objectives relating to development in villages and settlements that does not specify scale, nature or location have also been identified as uncertain for the purposes of this assessment</p>								
Allenwood								
V AL1	Green	Blue	Blue	Blue	Blue	Green	Green	Blue
V AL2	Green	Green	Blue	Blue	Green	Green	Green	Blue
V AL3	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
V AL4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V AL5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V AL6	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V AL7	Green	Yellow	Blue	Yellow	Blue	Yellow	Blue	Green
V AL8	Green	Yellow	Yellow	Yellow	Blue	Blue	Blue	Green
V AL9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V AL10	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V AL11	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V AL12	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V AL13	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Green
V AL14	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V AL15	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V AL16	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V AL17	Green	Blue	Blue	Green	Blue	Blue	Blue	Green
V AL18	Green	Green	Green	Green	Blue	Blue	Blue	Blue
V AL19	Green	Green	Green	Green	Blue	Blue	Blue	Blue
<p>The development objectives for Allenwood are likely to give rise to overall positive and neutral environmental effects. Uncertain environmental effects are identified for the purposes of this assessment with regards objective VAL 3, which relates to the expansion of local services and businesses. This is because the nature scale or location of these businesses are not defined. Some uncertain environmental effects are also identified with regards objectives relating to tourism social and community development, in that increased human interaction with water sources or areas of natural heritage has the potential to give rise to negative effects. However, the nature, scale and location of the tourism, community and recreation proposals are not known at this time.</p>								
Ballitore								
V BL1	Green	Blue	Blue	Blue	Green	Yellow	Green	Yellow
V BL2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue

V BL3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V BL4	Green	Yellow	Yellow	Yellow	Yellow	Blue	Yellow	Green
V BL5	Blue	Blue	Blue	Blue	Blue	Green	Blue	Blue
V BL6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V BL7	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V BL8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V BL9	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V BL10	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V BL11	Green	Red	Red	Red	Red	Yellow	Red	Green
V BL12	Green	Blue	Blue	Blue	Green	Yellow	Green	Blue
V BL13	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V BL14	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives relating to Ballitore are likely to result in overall positive and neutral environmental effects. An uncertain environmental effect is identified with regards objective V BL4 in that it is currently not known what is proposed for the Glanbia site. Objective V BL11 has the potential to give rise to negative environmental effects in that it relates to the construction of a new link road. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Ballymore Eustace

V BE1	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V BE2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V BE3	Green	Blue	Blue	Blue	Green	Yellow	Green	Yellow
V BE4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Yellow
V BE5	Green	Green	Blue	Blue	Green	Yellow	Green	Blue
V BE6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V BE7	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V BE8	Green	Yellow	Yellow	Yellow	Green	Blue	Blue	Green
V BE9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V BE10	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V BE11	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V BE12	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V BE13	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V BE14	Blue	Blue	Blue	Blue	Blue	Blue	Green	Blue
V BE15	Blue	Blue	Blue	Blue	Blue	Blue	Green	Blue
V BE16	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V BE 16 (2)	Green	Red	Red	Red	Red	Yellow	Red	Green
V BE17	Green	Red	Red	Red	Red	Yellow	Red	Green
V BE18	Green	Red	Red	Red	Red	Yellow	Red	Green
V BE19	Green	Yellow	Yellow	Yellow	Blue	Blue	Blue	Blue
V BE20	Green	Green	Green	Green	Blue	Blue	Blue	Blue

Development objectives relating to Ballymore Eustace are likely to result in overall positive and neutral environmental effects. Objectives V BE16 (2), V BE17 and VBE18 have the potential to give rise to negative environmental effects in that they relate to road projects. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Caragh

V CA1	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CA2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V CA3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CA4	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V CA5	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V CA6	Green	Red	Red	Red	Red	Yellow	Yellow	Green

V CA7	Green	Red	Red	Red	Red	Yellow	Yellow	Green
V CA8	Green	Green	Green	Green	Blue	Blue	Blue	Blue

Development objectives relating to Caragh are likely to result in overall positive and neutral environmental effects. Objective V CA5 has the potential to give rise to negative environmental effects in that it relates to the widening and upgrade of an existing railway bridge. Objective V CA7 also has the potential to give rise to negative environmental effects in that it relates to the upgrade of the extent of the R409. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Coill Dubh/Cooleragh

V CC1	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CC2	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CC3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CC4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CC5	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CC6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CC7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CC8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CC9	Green	Red	Red	Red	Red	Yellow	Red	Green
V CC10	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CC11	Green	Red	Red	Red	Red	Yellow	Red	Green

Development objectives relating to Coill Dubh/Cooleragh are likely to result in overall positive and neutral environmental effects. Objectives V CC9 and V CC11 have the potential to give rise to negative environmental effects in that it relates to road realignment and improvement works. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Crookstown

V CT1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Yellow
V CT2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V CT3	Blue	Green	Green	Green	Blue	Green	Blue	Blue
V CT4	Blue	Green	Green	Green	Blue	Green	Blue	Blue
V CT5	Blue	Blue	Blue	Blue	Blue	Green	Blue	Blue
V CT6	Green	Yellow						
V CT7	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V CT8	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V CT9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CT10	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CT11	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V CT12	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green

The development objectives relating to Crookstown are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects have been identified for the purposes of this assessment with regards objective V CT6 which relates to the expansion of local businesses and services. This is because the scale, nature and location of the expansions are not known at this time.

Johnstown

V JT1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V JT2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V JT3	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V JT4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V JT5	Blue							
V JT6	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V JT7	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V JT8	Blue							
V JT9	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives relating to Johnstown are likely to result in overall positive and neutral environmental effects

Johnstown Bridge

V JB1								
V JB2								
V JB3								
V JB4								
V JB5								
V JB6								
V JB7								
V JB8								
V JB9								
V JB10								
V JB11								
V JB12								
V JB13								
V JB14								
V JB15								
V JB16								
V JB17								
V JB18								
V JB19								
V JB20								
V JB21								

The development objectives relating to Johnstown Bridge are likely to result in overall positive and neutral environmental effects. While the positive effects on the population and material assets are identified with regards proposed opportunity sites, an overall uncertain environmental effect is identified for the purposes of this assessment in the absence of further design information. Objective VJB 13 has the potential effects as it relates to the provision of a bypass at Johnstown Bridge. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Kildangan

V KD1								
V KD2								
V KD3								
V KD4								
V KD5								
V KD6								
V KD7								
V KD8								
V KD9								

The development objectives relating to Kildangan are likely to result in overall positive and neutral environmental effects.

Uncertain environmental effects are identified with regards objective V KD3 in that the location and scale of the additional educational facilities are not yet known. Potential negative environmental effects are identified with regards objectives VKD 6, VKD 7 and VKD 8 in that these relate to road realignment and improvement works. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Kilmeague

V KM1								
V KM2								
V KM3								
V KM4								

V KM5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V KM6	Blue	Green	Green	Green	Blue	Green	Blue	Blue
V KM7	White							
V KM8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V KM9	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V KM10	Green	Blue	Blue	Green	Blue	Blue	Blue	Green
V KM11	Green	Blue	Blue	Green	Blue	Blue	Blue	Green

The development objectives relating to Kilmague are likely to result in overall positive and neutral environmental effects

Moone

V M1	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V M2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V M3	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V M4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V M5	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V M6	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V M7	Green	Blue	Blue	Green	Blue	Blue	Blue	Green

The development objectives relating to Moone are likely to result in overall positive and neutral environmental effects

Narraghmore

V N1	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V N2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V N3	Blue	Green	Blue	Blue	Green	Blue	Green	Blue
V N4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V N5	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V N6	Green	Blue	Blue	Green	Blue	Blue	Blue	Green

The development objectives relating to Narraghmore are likely to result in overall positive and neutral environmental effects

Robertstown

V R1	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V R2	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V R3	Green	Blue						
V R4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V R5	Green	Green	Green	Green	Green	Yellow	Green	Green
V R6	Green	Green	Green	Green	Green	Yellow	Green	Green
V R7	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V R8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V R9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V R10	Blue	Green	Blue	Blue	Blue	Blue	Blue	Blue
V R11	Blue	Blue	Blue	Blue	Blue	Blue	Green	Blue
V R12	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
V R13	Green	Yellow	Yellow	Yellow	Blue	Yellow	Blue	Green
V R14	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V R15	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V R16	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V R17	Green	Green	Green	Green	Blue	Blue	Blue	Blue

The development objectives relating to Robertstown are likely to result in overall positive and neutral environmental effects

Straffan

V ST1	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V ST2	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V ST3	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
V ST4	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V ST5	Green	Green	Blue	Blue	Blue	Blue	Green	Green
V ST6	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue

V ST7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue
V ST8	Green	Yellow	Yellow	Yellow	Blue	Blue	Blue	Green
V ST9	Green	Yellow	Yellow	Yellow	Blue	Blue	Yellow	Green
V ST10	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V ST11	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V ST12	Green	Red	Red	Red	Red	Yellow	Red	Green
V ST13	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V ST14	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V ST15	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V ST16	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V ST17	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green

The development objectives relating to Straffan are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects are identified with regards objective V ST3 which relates to development of an Opportunity Site. While the positive effects on the population and material assets are identified with regards proposed opportunity sites, an overall uncertain environmental effect is identified for the purposes of this assessment in the absence or further design information. Uncertain environmental effects are also identified where objectives relate to the encouragement and facilitation of tourism, recreational facilities and amenities in proximity to the River Liffey. It is recommended to the Council that prior to the development of any tourism initiatives such as these that environmental assessments- particularly assessments relating to biodiversity and water quality are carried out. Potential negative environmental effects are identified with regards objective V ST12 in that it relates to road improvement works. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Suncroft

V SU1	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V SU2	Blue	Blue	Blue	Blue	Blue	Green	Green	Blue
V SU3	Green	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Green
V SU4	Blue	Green	Blue	Blue	Green	Blue	Green	Blue
V SU5	Green	Red	Red	Red	Red	Yellow	Red	Green
V SU6	Green	Red	Red	Red	Red	Yellow	Red	Green
V SU7	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V SU8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green

The development objectives relating to Suncroft are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects are identified with regards Objective V SU3, which relates to the expansion of recreational facilities. This is because the nature, scale and location of these facilities is not yet known. Potential negative environmental effects are identified with regards Objectives V SU7 and V SU8 as these relate to road realignment and improvement works. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Timolin

V T1	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V T2	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
V T3	Blue	Green	Blue	Blue	Green	Blue	Green	Blue
V T4	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green
V T5	Green	Blue	Blue	Blue	Green	Blue	Blue	Green
V T6	Green	Red	Red	Red	Red	Yellow	Red	Green
V T7	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Green
V T8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green
V T9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Green

The development objectives relating to Timolin are likely to result in overall positive and neutral environmental effects. Uncertain environmental effects are identified with regards Objective V T4, which relates to the upgrading and enhancement of community facilities.

This is because the nature, scale and location of these facilities is not yet known. Potential negative environmental effects are identified with regards Objective VT6, which relates to junction improvement works at Main Street. Road projects, be they upgrade works widening or indeed development of new roads, have the potential to result in significant negative effects on biodiversity, water quality, land and soils and air quality and climate. Such projects should be subject to environmental assessment, as required.

Rural Settlements

Settlement Core	Green	Blue	Blue	Blue	Blue	Green	Green	Yellow
Existing Settlement	Green	Blue	Blue	Blue	Blue	Yellow	Green	Yellow
Settlement Expansion	Green	Blue	Blue	Blue	Blue	Green	Green	Yellow
Services Sites	Green	Yellow	Yellow	Yellow	Yellow	Green	Green	Green

The overarching aims and objectives for the rural settlements of County Kildare are likely to result in overall positive and neutral environmental effects as they largely support and mirror the objectives of volume one and the Core Strategy of the draft Kildare County Development Plan and the principles of sustainable development.

8.4 Recommendations to Kildare County Council

Following the assessment of the draft Plan provisions (Refer to **Table B1** in **Appendix B** and **Table 8.3.1** and **8.3.2** in **Section 8.3.2**), a number of recommendations are hereby put forward for consideration by KCC for inclusion. These relate to changes in wording of certain policies/objectives or indeed the inclusion of additional policies/objectives. These are summarised in **Table 8.4.1**.

Table 8.4.1 Recommendations to Kildare County Council

Recommendations to KCC
<p>Mitigation</p> <p>Include the following as a policy/objective:</p> <p>“Implement the mitigation measures as set out in the SEA Environmental Report.”</p>
<p>Monitoring</p> <p>Include the following as a policy/objective:</p> <p>“Implement the monitoring programme as set out in the SEA Environmental Report. This will include the preparation of standalone SEA Monitoring Reports to accompany:</p> <ol style="list-style-type: none"> The report required of the Chief Executive under section 15(2) of the Act, including information in relation to progress on, and the results of, monitoring the significant environmental effects of implementation of the development plan; In advance of the beginning of the review of the next County Development Plan on the significant environmental effects of implementing this Plan.”
<p>Tourism Initiatives</p> <p>Policies/Objectives relating to tourism initiatives, or recreational/amenity activities involving natural areas such as watercourse, bogs etc. should incorporate the following wording:</p> <p>“Applications or proposals will be accompanied by a management plan indicating projected numbers of users, hours of operation, seasons of operation, and an undertaking to protect the natural environment in the form of a risk assessment with proposed amelioration measures in respect of flora, fauna, hydrology, geology and soils.”</p>
<p>Development on Peatlands</p> <p>Include the following as a new Objective or add on to existing Objective:</p>

Recommendations to KCC
<p>“When developing project proposals for development on peatlands, undertake a peatland stability assessment, carbon emissions balance assessment and hydrological and ecological impact assessments, as required.”</p>
<p>Lighting Where Policies/ Objectives relate to installation of lighting, include the following as either a new objective or as an add-on to an existing objective: “Ensure that the design of external lighting schemes minimises the incidence of light spillage or pollution in the immediate surrounding environment and has due regard to the residential amenity of surrounding areas and the need to mitigate adverse impacts on sensitive fauna and protected species.”</p>
<p>Roads Projects and Greenways Where Policies/Objectives relate to roads projects- including but not limited to; widening realignment or improvements, include the following wording: “in accordance with all necessary planning and environmental conditions.” Where Policies/Objectives relate to the development of roads, include the following wording: “New roads and other transport infrastructure projects (including greenways, blueways and cycleways) referred to by this Plan should first be subject to the undertaking of feasibility assessment. Where feasibility is established, a Corridor and Route Selection Process will be undertaken where appropriate, for relevant new road infrastructure in two stages”, Stage 1 – Route Corridor Identification, Evaluation and Selection and Stage 2 – Route Identification, Evaluation and Selection.”</p>
<p>Where potential for negative environmental effects are identified in this assessment, it is recommended to include the following wording: “Applicants will be required to demonstrate, to the satisfaction of the planning authority that no significant negative environmental effects will occur as a result of the development” or “in accordance with all relevant planning and environmental conditions.” Specific examples are included below. These examples are not all encompassing, and regard should be had to the findings of the environmental assessment in Section 8.3.</p>

Chapter	Related Objective	Discussion	Recommendation to KCC
Ch. 3	HO P11	A potential negative environmental effect is identified with regards objective HO P11, Chapter 3. This objective is likely to result in a positive effect on population through the provision of required housing. However, the development of rural housing outside of settlements has the potential to result in a negative effect on the environmental aspects indicated in this assessment. The mitigation measures set out in in this ER should work to avoid or reduce the negative environmental effects of this objective.	Change wording of objective to "Facilitate, subject to all appropriate environmental assessments..."
Ch. 3	HO P20 HO P22	A potential negative environmental effect is also identified with regards objective HO P20 and HO P22. The development of rural housing outside of settlements has the potential to result in a negative effect on the environmental aspects indicated in this assessment. The mitigation measures set out in Section 9 should work to avoid or reduce the negative environmental effects of this objective.	Include the wording 'Applicants will be required to demonstrate, to the satisfaction of the planning authority that... and that no significant negative environmental effects will occur as a result of the development.'
Ch. 4	RE O16	A potential negative environmental effect is identified with regards Objective RE O16, which relates to the delivery of strategic infrastructure in the County to support future development.	Include the wording 'subject to appropriate route option selection processes and

Chapter	Related Objective	Discussion	Recommendation to KCC
		This objective is likely to give rise to a positive effect on population, air noise and climate and on material assets through the provision of required infrastructure, particularly sustainable transport infrastructure. An otherwise potentially negative effect is identified for the purposes of this assessment in that large scale linear infrastructure such as road or rail can give rise to negative environmental effects. Refer to mitigation measures.	environmental assessments.'
Ch. 4	RE O58	Another potentially negative environmental effect is identified with regards RE O58, which relates to the development of a Technical and Innovation Park in Maynooth and supporting infrastructure. A development such as this is likely to be large-scale, with the potential to give rise to increased traffic movements and increased emissions. Potential negative environmental effects are therefore identified for the purposes of this assessment on biodiversity, land and soils, water, air, noise and climate and on the landscape and visual setting.	Include the wording 'subject to all relevant and cumulative environmental assessments and planning conditions.'
Ch. 4	RE P11 REO67 RE O68	The Councils policy and objectives relating to the accommodation of data centres in the County (RE P11, REO67 and RE O68) have the potential to result in a negative environmental effect. Similar to the above commentary on the REO58, data centre projects can be large-scale developments, with the potential to give rise to increased traffic movements and subsequent emissions and are extremely resource intensive. Potential negative environmental effects are therefore identified for the purposes of this assessment on biodiversity, land and soils, water, air, noise and climate and on the landscape and visual setting.	Include the wording 'subject to all relevant and cumulative environmental assessments and planning conditions.'
Ch. 4 Ch.5	-	The draft Plan sets out a number of objectives of KCC relating to the development and promotion of greenways and blueways for tourism purposes. While the development and support of the same can result in positive effects, particularly on population, air quality and climate and material assets through the accommodation of pedestrian and cyclists and the subsequent provision of alternative, sustainable means of transport and reduced dependency on private vehicle use. However, any level of development and increased footfall along waterways or areas of habitat importance could result in a negative environmental effect, particularly with regard biodiversity and water quality.	Include the wording 'subject to all relevant and cumulative environmental assessments and planning conditions.'

Chapter	Related Objective	Discussion	Recommendation to KCC
Ch. 7	-	The Councils policy and objectives relating to the accommodation of data centres in the County have the potential to result in a negative environmental effect. Data centre projects can be large-scale developments, with the potential to give rise to increased traffic movements and subsequent emissions and are extremely resource intensive. Potential negative environmental effects are therefore identified for the purposes of this assessment on biodiversity, land and soils, water, air, noise and climate and on the landscape and visual setting. It is recognised however, that KCC have stipulated that these applications for data centres have regard to a range of environmental and site suitability criteria. This is likely to reduce the potential for significant environmental effects.	Include the wording ‘subject to all relevant and cumulative environmental assessments and planning conditions.’
Ch. 9	RD O22	A potential negative environmental effect is identified with regards objective RD O22 which relates to the facilitation of tourism infrastructure and visit visitor services including tourist accommodation in forest estates. Development in forested areas is likely to result in a negative effect on a range of environmental factors particularly where deforestation or tree removal is required.	Include the wording “in accordance with all relevant planning and environmental conditions.”

8.5 Interactive and Cumulative Effects

8.5.1 Interactive Effects

The SEA Directive requires the ER to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. The presence of significant interactive effects between environmental factors is identified on **Table 8.5.1** below.

Table 8.5.1 Interactive Effects

	Biodiversity	Population & Human	Land & Soil	Water	Air, Noise, Climate	Heritage	Landscape & Visual	Material Assets
Biodiversity								
Population & Human	Yes							
Land & Soil	Yes	Yes						
Water	Yes	Yes	Yes					
Air, Noise, Climate	Yes	Yes	No	No				

	Biodiversity	Population & Human	Land & Soil	Water	Air, Noise, Climate	Heritage	Landscape & Visual	Material Assets
Heritage	No	No	Yes	No	No			
Landscape & Visual	Yes	Yes	Yes	No	No	Yes		
Material Assets	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

8.5.2 Cumulative Effects

Cumulative effects are one of the types of effects which have been considered by the assessment of the alternatives. Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact.

The two types of potential cumulative effects that have been considered throughout this assessment are:

- Potential intra-Plan cumulative effects, which arise from the interactions between different types of potential environmental effects resulting from a plan, programme, or policy where there are elevated levels of environmental sensitivities. Environmental sensitivities have been identified in **Section 5.3**, in the future development could result in environmental conflicts and lead to the deterioration of environmental quality. The interrelationships between environmental components that help determine these potential effects are identified on **Table 8.5.1** above.
- Potential Inter-Plan cumulative effects arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc. Other policies, plans and programmes, as outlined in **Section 3.2** have therefore been considered for their potential to give rise to potential cumulative effects with the draft Kildare CDP.

Examples of other policies, plans and programmes of relevance are listed in **Section 3.2**.

Potential cumulative effects include:

- Contribution towards sustainable development, environmental protection and environmental management – various provisions for which are provided for in the aforementioned plans.
- Need for and use of services, infrastructure, and other development (to service development, including tourism), including those related to water services, transport, access or accommodation, that are planned for and consented through the statutory framework – and associated potential adverse environmental effects on various environmental components including biodiversity and flora and fauna, the status of waters, human health, soil, emissions, cultural heritage and landscape.
- Contribution towards climate adaptation and mitigation through measures such as those relating to walking and cycling, charging infrastructure, facilitating use of public transport, flood risk management and resilience.

- Potential cumulative effects on flood risk by, for example, development of greenfield lands or the obstruction of flood paths.
- Contribution towards travel related greenhouse gas and other emissions to air as a result of increases in tourist numbers (in combination with plans and programmes from all sectors, including energy, transport and land use planning), to facilitate, sustainable compact growth, sustainable mobility or a shift from motorised transport modes to more sustainable, renewable energy development and non-motorised transport modes.
- Contribution towards the protection and management of biodiversity and flora and fauna (in designated sites, including European Sites and Wildlife Sites, and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats) through visitor management strategies, as relevant and appropriate.

These effects would have the potential, if unmitigated, if they occurred, to result in changes in the environment within and beyond County Kildare. Works arising outside of the Plan as a result of providing for new development within the County including those arising as a result of the cumulative provision of development in the wider Eastern and Midland region would potentially conflict with a number of environmental components, across the wider Eastern and Midland region and beyond, including ecology, soil function, the status of water bodies and the landscape.

These plans and programmes are subject to their own environmental assessment requirements as relevant. Some of these potential cumulative effects are mitigated by measures which are integrated into the Plans/Programmes while some will be mitigated by measures arising out of separate consent procedures.

9 Mitigation Measures and Monitoring

9.1 Mitigation

Mitigation measures are measures envisaged and designed to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the CDP. All mitigation measures have been developed and agreed with KCC as part of the SEA iterative process. The primary mitigation measure is to ensure the sustainable and appropriate development of the plan area without compromising the integrity of the natural and built environment. It is recommended that all legislation, policies and guidelines outlined in this Environmental Report are adhered to. In addition, future legislation, policies and guidelines should also be fully integrated into the CDP and Environmental Report. In addition, many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated AA Screening. In this section the mitigation measures are discussed under each environmental parameter heading. Refer to **Table 9.1.1** for proposed mitigation measures, and recommendations of the SEA.

Table 9.1.1 Mitigation measures

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
Biodiversity	<ul style="list-style-type: none"> To afford the highest level of protection to all designated European sites and species in accordance with the relevant legislation. To require all planning applications for development that may have (or cannot rule out) likely significant effects on European Sites in view of the site's Conservation Objectives, either in isolation or in combination with other plans or projects, to submit a Natura Impact Statement in accordance with the requirements of the EU Habitats Directive and the Planning and Development Act, 2000 (as amended). To recognise and afford appropriate protection to any existing, new, or modified SPAs or SACs that are identified during the lifetime of the CDP. 	<p>EC O56, RE O101, RE O108, AH P1, AH P2, AH P3, AH O40, LR T1, LR O19, LR O21, LR O22, LR O20, LR O18, LR T2, RD O32, AH P2, TM A21, IN O64, RD O11, RD O38, AH O1, AH O4, AH A1, AH A2, AH A3, AH A4, AH O8, AH P5, LR O8, LR T1, RE P26, EC O26, AH O5, AH O6, AH O7, AH O10.</p> <p>RD O34, RD O38, AH P1, AH O1, AH O3, AH O4, AH A1, AH A2, AH O8, AH O13, AH O16, AH P8, LR O8, LR T1, LR O38, EC O56, RE O101, RE O108, AH P1, AH P2, AH P3, AH O40, LR T1, LR O19, LR O21, LR O22, LR O20, LR O18, LR T2, RD O32, RE O122, RE P26, EC O26, AH O5, AH O6, AH O7, AH O10, LR O6, LR O2.</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<ul style="list-style-type: none"> <li>• To implement Article 6(3) and where necessary 6(4) of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). To have regard to Appropriate Assessment of Plans and Projects in Ireland – Guidelines for Planning Authorities 2009 or any updated version. <li>• To actively promote the conservation and protection of areas designated as an NHA (including proposed sites) and to only consider proposals for development within or affecting an NHA where it can be clearly demonstrated that the proposed development will not have a significant adverse effect on the NHA or pNHA; To identify and afford appropriate protection to any new, proposed or modified NHAs identified during the lifetime of this plan. <li>• To ensure the protection and conservation of areas, sites, species and ecological networks/corridors of biodiversity value outside of designated sites throughout the country and to require an ecological assessment to accompany development proposals likely to impact on such areas or species. <li>• To implement the EIA Directive, ensuring that all elements/stages or components of the project are included in one overall assessment and all reasonable alternatives are taken into consideration in choosing the option with the least environmental impact. 	<p>RD O34, AH O8, AH O24, AH O35, LR O2, LR O3, EC O54, RD O34, RD O38, RD O39, AH O4, AH O10, AH O23, AH O33, AH O48, AH O51, AH O64, LR A1, LR O38, RD O32, AH P2, AH P3, LR O21, LR O22.</p> <p>HO P26, RD O32, SC A11, AH A1, AH P2, AH P3, AH O8, AH O40, AH O51, HO P12, HO O48, HO A4, HO P26, RE O109, RE O120, RE O121, RE O135, RE O136, RE O137, RE O142, TM O101, EC O5, EC O17, EC O26, EC O62, EC O70, EC O75, RET O37, RET O39, RET O51, RD O32, SC O46, SC O88, AH P1, AH O1, AH O4, AH O15, AH O16, AH A5, AH A6, AH P4, AH O18, AH P5, AH P6, AH O21, AH O23, AH O28, AH O29, AH O31, AH O33, AH O39, AH P8, AH O54, AH O56, AH O64, LR O19, LR O24.</p> <p>AH P1, LR T1, EC O85, RD O29, AH O35, RE O97, RE O105, RE O111, IN O30, IN O63, EC O17, EC O54, RD O38, RD O39, AH O17, AH O24, AH O35, LR O2, LR O38.</p> <p>EC O56, RE O101, RE O108, AH P1, AH P2, AH P3, AH O40, LR T1, LR O19, LR O21, LR O22, LR O20, LR O18, LR T2, RD O32, AH P2, TM A21, IN O64, RD O11, RD O38, AH O1, AH O4, AH A1, AH A2, AH A3, AH A4, AH O8, AH P5, LR O8, LR T1, RE P26, EC O26, AH O5, AH O6, AH O7, AH O10, RD O34, RD O38, AH O4, AH A1, AH A2, AH O8, AH O13, AH O16, AH P8, LR O8, LR T1, LR O38, EC O56,</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>To have regard to “Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments (2013)’ when considering proposals for which an EIA is required.</p> <p>To protect and promote the sustainable management of the natural heritage, flora and fauna of the county through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats.</p> <p>To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider Plan area.</p> <p>To ensure that development proposals support and enhance the connectivity and integrity of habitats in the plan area by incorporating natural features into the design of development proposals.</p> <ul style="list-style-type: none"> ● To raise awareness of the threat of alien invasive species and take all necessary steps to prevent the spread of non-native invasive species and noxious weeds in the plan area, including requiring landowners, developers and boat operators to adhere to best practice guidance in relation to their control. <p>To implement the requirements of EU Regulations 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species.</p> <ul style="list-style-type: none"> ● The development of new infrastructure should be subject to site options assessment and environmental assessment, where required. 	<p>RE O101, RE O108, AH P1, AH P2, AH P3, AH O40, LR T1, LR O18, LR T2, RD O32, RE O122, RE P26, EC O26, AH O5, AH O6, AH O7, AH O10, LR O6, LR O2, AH O24, AH O35, LR O2, LR O3, EC O54, RD O34, RD O38, RD O39, AH O4, AH O10, AH O23, AH O33, AH O48, AH O51, AH O64, LR A1, LR O38, RD O32, LR O21, LR O22, HO P26, RD O32, SC A11, AH O8, AH O40, AH O51, HO P12, HO O48, HO A4, HO P26, RE O109, RE O120, RE O121, RE O135, RE O136, RE O137, RE O142, TM O101, EC O5, EC O17, EC O26, EC O62, EC O70, EC O75, RET O37, RET O39, RET O51, RD O32, SC O46, SC O88, AH O1, AH O4, AH O15, AH O16, AH A5, AH A6, AH P4, AH O18, AH P5, AH P6, AH O21, AH O23, AH O28, AH O29, AH O31, AH O33, AH O39, AH P8, AH O54, AH O56, AH O64, LR O19, LR O24, AH P1, LR T1, EC O85, RD O29, AH O35, RE O97, RE O105, RE O111, IN O30, IN O63, EC O17, EC O54, RD O38, RD O39, AH O17, AH O24, AH O35, LR O2.</p> <p>AH O4, AH P9, AH O37, AH O38, AH A12.</p> <p>AH O35, HO P3, HO P9, RE O97, RE O105, RE O111, TM A2, TM O44, TM O53, TM A18, IN O30, IN O31, IN O32, IN O33, IN O63, EC O17, EC O24, AH P1, LR T1, EC O85, RD O29, RE O97, RE O105, RE O111, IN O30, IN O63, EC O17, EC O54, RD O38, RD O39, AH O17, AH O24, AH O35, LR O2, LR O38, RD O34, AH O8, AH O24, AH O35, LR O2, LR O3, EC O54, RD O34, RD O38, RD O39, AH O4, AH O10, AH</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
		O23, AH O33, AH O48, AH O51, AH O64, LR A1, LR O38, RD O32, AH P2, AH P3, LR O21, LR O22.
Population and Human Health	<ul style="list-style-type: none"> • Ensure that access to adequate health and education facilities to meet the demand of the current and projected populace are included in development plans. • To consult with and have regard to the technical advice of the Health and Safety Authority and assessing planning applications where the Major Accidents Directive and any associated regulations are relevant. • Encourage the further development of regional sustainable and public transport infrastructure including rail and bus corridors. 	<p>HO O32, HO O44, SC O16, SC A2, SC O31, SC P7, SC P14, SC O78, SC O80, SC O82, SC O83, SC O84, SC O85, SC A16, SC O79, RE O59, RE O61, TM T1, TM O21, TM T3, TM T6, EC O87, RD O17, SC O10, SC O16, SC A2, SC P12, SC O58, SC O63, SC O64, SC O66, SC O68, SC O69, AH O27.</p> <p>RE P9, RE P10.</p> <p>TM A2, TM O27, RET O6, CSO 1.12, RE O9, RE P12, TM O3, TM O8, TM O11, TM A5, TM A7, TM A10, TM P3, TM O23, TM O24, TM O27, TM T5, TM T6, TM O67, TM A18, TM O88, TM O90, SC O26, SC O41, LR O85.</p>
Land and Soil	<ul style="list-style-type: none"> • To ensure that contaminated soil is disposed of in accordance with the Waste Management Regulations (S.I.821 of 2007). • Perform a survey of obsolete urban renewal areas and facilitate and promote the reuse and regeneration of brownfield sites, derelict land and buildings in and around urban centres. • To recognise the importance of Geological Heritage Sites and to protect the character and integrity of these sites. To work with the GSI and relevant stakeholders to undertake a review of Geological Heritage Sites in the county during the lifetime of this Plan. 	<p>HO O46, IN O38, IN O41, IN O42, IN O43, IN O44, IN O46, IN O48, IN O51</p> <p>CSO 1.11, HO P6, HO O9, HO P9, RE O20, RE P4, RE O30, RE O33, RE A5, RE O93, TM O92, RET O9, RET O19, RET O29, RET O34, RET O36, RET O40, RET O43, RET O46, RET O54, RET A1, RET O74, RET A3, AH O15, UDPR P2, UDPR O4, UDPR A1.</p> <p>HO O48, RD O33, RD O38, AH O8, AH P10, AH O39, AH O40, AH A14, RE O90.</p>
Water Resources	<ul style="list-style-type: none"> • To work with all relevant stakeholders to protect and manage inland waters, river corridors and their floodplains, turloughs, lakes, fens and other water bodies from degradation and damage, and to 	<p>HO O48, HO P23, RE O10, RE O110, RE P21, RE P26, TM O5, TM O17, IN P1, IN P2, IN O2, IN O3, IN O5, IN O6, IN O7, IN O8, IN O9, IN O11, IN O14, IN O16, IN O18, IN O19, IN P4, IN O20, IN O23, IN O34, IN P7, IN O52, IN O53, IN O54, RD O9, RD O19, AH</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>recognise and promote them as natural assets and key elements in the green infrastructure network in the county.</p> <ul style="list-style-type: none"> To facilitate the implementation of the relevant River Basin Management Plan for ground, surface, estuarine, coastal and transitional waters in the plan area as part of the implementation of the EU Water Framework Directive. To protect groundwater resources in accordance with the statutory requirements and specific measures as set out in the relevant River Basin Management Plan. To consider proposals for development where it can be clearly demonstrated that the development will meet the requirements of the relevant River Basin Management Plan. To ensure that developments that would have an unacceptable impact on water resources, including surface water and groundwater quality and quantity, designated sources protection areas, estuarine, coastal transitional waters, river corridors and associated wetlands will not be permitted. In areas of potable groundwater resources or over vulnerable aquifer areas, development proposals will only be considered if the applicant can clearly demonstrate that the proposed development will not pose a risk to the quality of the underlying groundwater. Prevent the alteration of natural drainage systems and in the case of development works require the provision of acceptable mitigation measures in order to minimise the risk of flooding and negative impacts on water quality. 	<p>P7, AH O23, AH O25, AH O26, AH O27, AH O27, AH O31, AH P8, AH O52, AH O55, LR O20, LR O25, LR O26, LR O27, LR O32, LR O59</p> <p>IN O18, IN P4, IN O20, IN O28, IN P5, IN P7, IN O52, AH P7, AH O23, IN O53, IN O54, RD O9, RD O19, AH O25, AH O26, AH O27, AH O27, AH O31, AH P8, AH O55, LR O25, LR O26, LR O27, LR O32, IN P2, IN O2, IN O5, RD O9, LR O59, IN O53, HO P23, HO O48, HO P23, RE O10, RE O110, RE P21, RE P26, TM O5, TM O17, IN P1, IN P2, IN O2, IN O3, IN O5, IN O6, IN O7, IN O8, IN O9, IN O11, LR O20.</p> <p>TM O5, IN O22, IN O28, AH P15, AH O55, HO O46, TM O5, TM O55, TM O96, IN P4, IN O20, IN O21, IN O27, IN A3, AH O34, AH O35, AH P15, AH O53, AH A18, HO P28, IN P5, IN O29, IN O30, IN O31, IN O32, IN O33, IN O34, IN O35, IN A2, EC O56, RD O25, AH O30, AH O31, AH O32, AH P8, LR O25, LR O32.</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>Comply with the objectives and policies of the Eastern Catchment Flood Risk Assessment Management Study.</p> <p>Promote SUDS principles for all drainage including the integration of storm water attenuation facilities for new developments and existing catchment areas.</p> <p>Ensure that any new development does not present an inappropriate risk of flooding or does not cause or exacerbate such a risk at other locations.</p> <p>Comply with the DoECLG/OPW guidance on development and flood risk through the control of development in any flood plain so that new and existing developments are not exposed to increased risk of flooding and that any loss of flood storage is compensated for elsewhere in the river catchment.</p>	
Air Noise and Climate	<ul style="list-style-type: none"> • Ensure that the objectives and policies of EU Air Quality legislation are incorporated into plans and programmes upon implementation into Irish law. • Promote the reduction of emissions of Greenhouse Gases and facilitate measures which seek to reduce emissions of greenhouse gases to ensure Ireland's compliance with our Emission Targets. • Facilitate sustainable transport modes and the use of walking, cycling and public transport. 	<p>IN O55, IN O56, IN O57, TM 0115</p> <p>EC O3, CSO 1.2, RE P12, EC P1, EC O3, TM A3, EC O30, EC O40, AH O35, LR O12, LR O13</p> <p>TM A8, TM A16, TM O56, CSO 1.12, RE O21, RE O38, RE P12, RE O125, TM P1, TM O10, TM P2, TM O13, TM A2, TM O27, RET O6, CSO 1.12, RE O9, RE P12, TM O3, TM O8, TM O11, TM A5, TM A7, TM A10, TM P3, TM O23, TM O24, TM O27, TM T5, TM T6, TM O67, TM A18, TM O88, TM O90, SC O26, SC O41, LR O85, TM O14, TM O17, TM O20, TM O22, TM A5, TM T2, TM T3, TM O23, TM O31, TM O45, TM O82, RET O65, SC O20, SC O26, SC O41, SC O59, SC O79, SC O93, AH O32, LR O44, LR A11, LR O85, LR O86.</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<ul style="list-style-type: none"> • Consideration of existing noise policy in County Kildare for example noise mapping and noise action plans produced by the Local Authority. Consideration of likely noise impacts/effects associated with new developments. This includes being cognisant of proximity to sensitive receptors when siting new developments and consideration of existing noise sources when zoning lands for residential development. • To support the implementation of the Climate Change policy documents and legislation outlined in the ER. • To ensure that developments do not give rise to negative effects on air quality, during both construction and operation. 	<p>EC O30, TM O49, TM O50, TM O112, TM O127, IN P8, IN O59, IN O60, IN O61, IN O62, IN O63, EC O30, EC O56, SC O90.</p> <p>CSO 1.8, HO O19, RE O69, RE O72, RE O82, RE O111, EC A1, EC A3, EC O20, EC O43, RD P7, AH O31, AH P13, AH O54, UDPR P1.</p> <p>IN O55, IN O56, IN O57, TM 0115, EC O3, CSO 1.2, RE P12, EC P1, EC O3, TM A3, EC O30, EC O40, AH O35, LR O12, LR O13</p>
Heritage	<ul style="list-style-type: none"> • To ensure the protection of the architectural heritage through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding historic gardens, and the recognition of structures and elements that contribute positively to vernacular and industrial heritage. To protect, as set out in the Record of Protected Structures, all structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest. To review the Record of Protected Structures periodically and add structures of special interest as appropriate, including significant elements of industrial, maritime or vernacular heritage and any twentieth century structures of merit. • To ensure that new developments within or adjacent to an ACA respect the established character context of 	<p>CSO 1.7, AH P6, AH O21, AH O23, AH O33, AH P8, AH O48, AH O64, AH A21, HO O48, HO P17, SC O88, AH O2, AH O6, AH O8, AH O12, AH O14, AH O16, AH A6, AH P5, AH A7, AH O20, AH O23, AH O26, AH O28, AH O31, AH O33, AH A9, AH A11, AH A12, AH A13 , AH P7 , AH P8 , AH O44 , AH O45, AH O50, AH A14, AH O58, AH O59, LR O4.</p> <p>AH O64, AH A21, AH A14, AH O51, AH O64, AH A20, LR O30, LR A10, EC O70, EC O75, AH A14, AH P8, AH</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>the area and contribute positively to the ACA in terms of design, scale, setting and material finishes.</p> <p>To protect existing buildings, structures, groups of structures, sites, landscapes and features such as street furniture and paving, which are considered to be intrinsic elements of the special character of the ACA, from demolition or removal and non-sympathetic alterations.</p> <p>To ensure that all new signage, lighting, advertising and utilities to buildings within an ACA are designed, constructed and located in a manner that does not detract from is complementary to the character of the ACA.</p> <ul style="list-style-type: none"> To safeguard sites, features and objects of archaeological interest generally. <p>To secure the preservation (i.e., preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally.</p> <p>To have regard to the government publication Framework and Principles for the Protection of the Archaeological Heritage 1999 in relation to protecting sites, features and objects of archaeological interest.</p> <p>To protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places.</p> <p>To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places.</p>	<p>O44, AH O45, AH O50, AH A14, AH O58, AH O59, LR O4, RD O32, AH O20, AH O23, AH O26, AH O28, AH O31, AH O33, AH A9, AH 21, AH O27.</p> <p>CSO 1.7, AH P6, AH O21, AH O23, AH O33, AH P8, AH O48, AH O64, AH A21, HO O48, HO P17, SC O88, AH O2, AH O6, AH O8, AH O12, AH O14, AH O16, AH A6, AH P5, AH A7, AH O20, AH O23, AH O26, AH O28, AH O31, AH O33, AH A9, AH A11, AH A12, AH A13 , AH P7 , AH P8 , AH O44 , AH O45, AH O50, AH A14, AH O58, AH O59, LR O4.</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>To have regard to archaeological concerns when considering proposed service schemes located in close proximity to Recorded Monuments and Places and the Zones of Archaeological Potential.</p>	
Landscape and Visual	<ul style="list-style-type: none"> • Ensure that all new plans and programmes incorporate the findings of the County Landscape Character Assessments. To require that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact. This must be demonstrated for all aspects of the proposal- from site selection through to details of siting and design. All other relevant provisions of the development plan must be complied with. Protect and enhance the streetscape of Naas' Main Street through the appropriate control of alterations to existing buildings and the development of new structures; in particular building and roof lines and heights which diverge from the established form will require to be justified. To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community. To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact. To ensure that appropriate standards of location, siting, design, finishing, and landscaping are achieved. 	<p>CSO 1.7, HO O43, HO O48, RE O89, RE O98, RE O137, RE P24, TM O87, TM O96, TM O100, IN O46, EC O2, EC O27, EC O34, EC O35, EC O62, EC O66, EC O77, EC O78, RD O5, RD P6, RD O32, AH O9, AH O25, AH O26, AH O31, AH O38, AH P7, AH P8, AH O45, AH O48, AH O49, AH O50, AH A14, AH O64, AH P1, AH O8, AH O50, LR P1, LR O1, LR O2, LR O3, LR O4, LR O6, LR O7, LR O9, LR O10, LR O13, LR O15, LR A1, LR A2, LR O30, LR O59, HO P1, RE O39, RET O62, SC O48, AH O38, HO O8, HO O48, RE O111, RE O137, RE O142, TM O101, EC O27, EC O78, LR O7, LR O28.</p>
Material Assets	<ul style="list-style-type: none"> • Promote the implementation of the Waste Management Plan together with any future National or Regional Waste Management Plans. Additionally, ensure national policies and regulations regarding waste are adhered to. 	<p>IN O44, IN A4, RE O10, IN P6, IN O41, IN O43, IN O44, IN O45, IN O46, IN A4, RD O30, IN O39, IN O42, IN O50, IN O51, IN A4, IN A5, EC O15.</p>

Aspect	Mitigation Measures	Relevant Objectives: County Development Plan Objectives
	<p>Encourage waste prevention, minimisation, reuse, recycling and recovery as methods of managing waste.</p> <ul style="list-style-type: none"> • Promote the development of sufficient energy resources to meet the needs of the plan area and promote the use of renewable energies to meet those needs. • Protect the hydrological environment from adverse effects of the wastewater discharges by ensuring that there is suitable wastewater treatment to meet demands before discharge to the environment. • Promote the development of sustainable transportation infrastructure where considered feasible. 	<p>HO O12, HO O13, HO O19, HO O46, RE O26, RE O67, RE O68, RE O71, RE O71, RE O73, RE O74, RE O75, RE O80, RE O108, TM O94, TM O95, EC O1 , EC A1, EC P2, EC P3, EC O2, EC O3, EC O5, EC O6, EC O7, EC O8, EC O9, EC O10, EC A2, EC A3, EC P4, EC O11, EC O12, EC O13, EC O14, EC T1, EC P5, EC O18, EC O19, EC P6, EC O26, EC O30, EC P7, EC P9, EC O34, EC P10, EC P11, EC O36, EC A4, EC O38, EC P14, EC O42, EC O43, EC A5, EC T3, EC O49, EC O52, EC O54, EC O55, EC O56, EC O57, EC O58, EC O60, EC O61, EC O64, EC O68, RD P1, RD O2, RD O7, RD O10, RD O29, AH O37, LR O28, LR O60.</p> <p>IN O44, IN A4, RE O10, IN P6, IN O41, IN O43, IN O44, IN O45, IN O46, IN A4, RD O30, IN O39, IN O42, IN O50, IN O51, IN A4, IN A5, EC O15, HO P23, RE O10, RE O110, IN P3, IN O12, IN O13, IN O14, IN O15, IN O18, IN O19, IN O28.</p> <p>TM A8, TM A16, TM O56, CSO 1.12, RE O21, RE O38, RE P12, RE O125, TM P1, TM O10, TM P2, TM O13, TM A2, TM O27, RET O6, CSO 1.12, RE O9, RE P12, TM O3, TM O8, TM O11, TM A5, TM A7, TM A10, TM P3, TM O23, TM O24, TM O27, TM T5, TM T6, TM O67, TM A18, TM O88, TM O90, SC O26, SC O41, LR O85, TM O14, TM O17, TM O20, TM O22, TM A5, TM T2, TM T3, TM O23, TM O31, TM O45, TM O82, RET O65, SC O20, SC O26, SC O41, SC O59, SC O79, SC O93, AH O32, LR O44, LR A11, LR O85, LR O86.</p>

9.2 Monitoring

Article 10 of the SEA Directive requires that monitoring should be carried out in order to identify at an early stage any unforeseen adverse impacts associated with the implementation of the plan or programme.

A monitoring programme is developed based on the indicators selected to track progress towards achieving strategic environmental objectives and reaching targets, enabling positive and negative impacts on the environment to be measured. As previously described, the environmental indicators have been developed to show changes that would be attributable to implementation of the CDP.

The SEA carried out has ensured that any potential significant environmental impacts have been identified and given due consideration. KCC is responsible for collating existing relevant monitored data, the preparation of preliminary and final monitoring evaluation reports, the publication of these reports and, if necessary, the carrying out of corrective action.

Refer to **Table 9.1.2** for the proposed monitoring measures.

Table 9.1.2 Proposed monitoring measures for the Kildare County Development Plan

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
Population and Human Health				
Protect and enhance human health and well being Promote economic growth Consolidate growth and limit urban sprawl.	<ul style="list-style-type: none"> To implement the CDP, which will contribute towards and facilitate economic growth. No significant deterioration in human health as a result of environmental factors. Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. To improve access to sustainable modes of transport. Promote compact growth. Facilitate attractive environments within our urban settlements, utilise brownfield over greenfield sites and resist where possible urban generated rural housing unless genuine need exists. Avoid developing land which is not likely to be serviced within the lifetime of the Development Plan. 	<ul style="list-style-type: none"> Population growth statistics of settlements identified in the Core Strategy. Number of new houses within settlement boundaries. Economic Growth Statistics. Health statistics of the County. Proportion of people reporting regular cycling / walking to school and work above previous CSO figures. Statistics on access to sustainable modes of transport. Number of compliances of waste-water infrastructure to legislation/regulations/conditions for relevant licences, permits etc. for discharges. Number of compliances of water supply schemes with relevant legislation/regulation/conditions for abstraction and consumption. Number of compliances of infrastructure projects to relevant legislation/regulation/conditions for noise, odour and/or air quality. Number of compliances of waste management sites. Implementation of the Noise Action Plan and relevant limit values. 	<ol style="list-style-type: none"> An Bord Pleanala/Kildare County Council Planning Records. Census Information on Population and Economy. Monitoring related to relevant Local Area Plans and County Development Plan. EPA State of the Environment Report. EPA Remedial Action Lists. EPA Urban WasteWater Treatment Reports. 	<ol style="list-style-type: none"> Planning records from An Bord Pleanala or KCC should be reviewed and recorded at least at the plan min-term review stage (3 years). Assessment and recording of trends is recommended on an annual basis if feasible. Census Information is updated every five years by the CSO and thus monitoring of any changes in population or economic trends in the County should be carried out each new Census year. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analyzed by KCC, as available (at least every 6 years). The State of the Environment Report is updated by the EPA every 4 years and should be examined by KCC on release in order to inform the Council of any change in the baseline environment. The EPA releases a Remedial Action List every Quarter which identifies problems with drinking water supply.

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
				<p>KCC should have regard to issues pertaining to KCC water treatment plants.</p> <p>6. The EPA publish an Urban WasteWater Treatment Report each year which identifies areas in Ireland where there are issues with treatment and effluent quality as well as capacity issues. KCC should have regard to issues pertaining to KCC treatment plants.</p>
Biodiversity				
<ul style="list-style-type: none"> To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species. Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function. Safeguard national, regional and local designated sites and supporting features which function as stepping stones for 	<ul style="list-style-type: none"> No loss of protected habitats and species during the lifetime of the Plan and seek to restore status where possible. That biodiversity, ecosystem services and green/blue infrastructure provisions are integrated into all decision making across the Plan and within lower-level plans, Council internal guidance documents, planning application considerations, and Council-led projects. Support features which function as stepping stones for migration, dispersal and genetic exchange of wild species. Identify invasive species in the County and develop 	<ul style="list-style-type: none"> The number and condition of European sites, and the maintenance of conservation objectives. The status of water quality in the County’s water bodies. The number of projects that have integrated ecosystem services considerations. The number of EIAs and AAs as relevant for new projects. The number of compliances of planning permissions with CDP, measures providing for the protection of biodiversity and flora and fauna. The number of provisions of green/blue infrastructure. The number of developments permitted in proximity/within European sites/sites of ecological importance. 	<ol style="list-style-type: none"> Department of Arts, Heritage and the Gaeltacht (NPWS) report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive and The Status of EU Protected Habitats and Species in Ireland Report (Department of Culture, Heritage and the Gaeltacht). Monitoring related to relevant Local Area Plans and County/City Development Plans. EPA State of the Environment Report. Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD. 	<ol style="list-style-type: none"> NPWS undertake surveillance of the conservation status of the natural habitats and species in the Annexes and under Article 17, report to the European Commission every six years on their status and on the implementation of the measures taken under the Directive. KCC should thus have regard to the monitoring reports as they are published in advance of any mid-term review or new/varied CDP. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analyzed by KCC, as available (at least every 6 years). The State of the Environment Report is updated by the EPA every 4 years and should be examined by KCC on release in

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
<p>migration, dispersal and genetic exchange of wild species.</p> <ul style="list-style-type: none"> Enhance biodiversity in line with the National Biodiversity Plan and its targets. To protect, maintain and conserve natural capital. 	<p>appropriate management techniques for their control.</p> <ul style="list-style-type: none"> Implement a Green Infrastructure Strategy for the County including the protection of green and blue ecological corridors and linkages. Screen for and undertake EIA and AA as relevant for new projects. 			<p>order to inform the Council of any change in the baseline environment.</p> <p>4. The EPA run a national rivers monitoring programme. The biology is monitored once every three years, while the physical and chemical parameters are measured several times a year.</p>
Land and Soil				
<ul style="list-style-type: none"> Protect soils against pollution and prevent degradation of the soil resource. Promote the sustainable use of infill and brownfield sites over the use of greenfield. Safeguard areas of prime agricultural land and designated geological sites. 	<ul style="list-style-type: none"> To facilitate compliance with growth targets for delivery of housing within the existing built-up footprint of settlements and urban areas. Dispose of contaminated material in compliance with EPA guidance and waste management requirements. Minimise the use of greenfield land. Reduce the rate of land use change on greenfield lands arising from urban sprawl and urban generated rural housing. Ensure sustainable extraction of non-renewable sand, gravel and rock deposits and the reuse and recycling of construction and demolition waste. 	<ul style="list-style-type: none"> Number of instances where contaminated material generated from brownfield and infill must be disposed of. Number of planning applications granted on brownfield and/or infill sites. Volume of construction and demolition waste recycled. Status/risk of groundwater waterbodies under the WFD. Number of application granted for soil importation/inert waste facilities. Number of planning permissions granted, and area of land permitted for excavation and extraction of nonrenewable sand, gravel and rock deposits. 	<ol style="list-style-type: none"> CORINE mapping survey. EPA State of the Environment Report. EPA National Waste Statistics. Monitoring related to relevant Local Area Plans and County/City Development Plans. 	<ol style="list-style-type: none"> In Ireland, the EPA coordinate and update the CORINE project. The dataset is updated every 6 years and should be examined by KCC on release in order to inform the Council of any change in the baseline environment. The State of the Environment Report is updated by the EPA every 4 years and should be examined by KCC on release in order to inform the Council of any change in the baseline environment. The EPA publish a National Waste Statistics Summary annually which the Council should review periodically in order to identify any emerging issues with waste soil.

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
				<p>4. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analysed by KCC, as available (at least every 6 years).</p> <p>5. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analyzed by KCC, as available (at least every 6 years).</p>
Water				
<ul style="list-style-type: none"> Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive and Marine CDP Framework Directive. Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas. Integrate sustainable water management solutions (such as SuDS, porous 	<ul style="list-style-type: none"> All waters within the plan area to achieve the requirements of the Water Framework Directive and the relevant River Basin Management Plan by 2027. Achieve compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC (protection of groundwater). Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk. Integrate sustainable water management solutions (such as SuDS, porous surfacing, etc.) into new projects as relevant. 	<ul style="list-style-type: none"> The status of water bodies as reported by the EPA Water Monitoring Programme for the WFD. Number of incompatible developments permitted within flood risk areas. The number of sustainable water management solutions (such as SuDS, porous surfacing, etc.) into new projects. 	<ol style="list-style-type: none"> An Bord Pleanala/Kildare County Council Planning Records. EPA Water Quality Status for surface and ground water. EPA State of the Environment Report. 	<ol style="list-style-type: none"> Planning records from An Bord Pleanala or KCC should be reviewed and recorded at least at the plan min-term review stage (3 years). Assessment and recording of trends is recommended on an annual basis if feasible. The EPA run a national rivers monitoring programme. The biology is monitored once every three years, while the physical and chemical parameters are measured several times a year. The State of the Environment Report is updated by the EPA every 4 years and should be examined by KCC on release in order to inform the Council of any change in the baseline environment.

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
surfacing, etc.) into new projects.	<ul style="list-style-type: none"> Implementation of flooding projects. 			
Air, Noise and Climate				
<ul style="list-style-type: none"> To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from transport. Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency. Promote continuing improvement in air quality. Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution. 	<ul style="list-style-type: none"> Decrease in proportion of journeys made by private fossil fuel-based car compared to previous CSO figures. Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. Improvement in Air Quality trends, particularly in relation to transport related emissions of NOx and particulate matter. Increase number of cycle lanes and pedestrian routes in the plan area. Implementation of Noise Action Plans. To implement the CDP, which will contribute towards and facilitate climate action. Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050. Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in 	<ul style="list-style-type: none"> Compliance with EPA emission limits for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter. Number of compliances with EPA emission limits for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter. Number of compliances with existing legislation/regulations/conditions for air quality e.g., IPPC/IE. Travel patterns and the number of modes of transport within the county. Number of new air monitoring stations in the county. Implementation of the CDP, which will contribute towards and facilitate climate action and the relevant targets for emission reductions. The quantity of GHG emission increases over the plan period. Energy consumption, the amount of uptake in renewable options and solid fuels for residential heating. Proportion of journeys made by private fossil fuel-based car compared to previous levels. Proportion of people reporting regular cycling / walking to school 	<ol style="list-style-type: none"> EPA Air Quality Monitoring. EPA State of the Environment Report. EPA Air Quality in Ireland Report. Monitoring related to relevant Local Area Plans and County/City Development Plans or RSES's – such as noise action plans. EPA Greenhouse Gas Reports 	<ol style="list-style-type: none"> The EPA operate real-time air monitoring stations and report in real-time on their website. KCC should have regard to the monitoring results periodically and review in advance of any mid-term review or preparation of a new plan. The State of the Environment Report is updated by the EPA every 4 years and should be examined by KCC on release in order to inform the Council of any change in the baseline environment. The EPA release an Air Quality in Ireland report annually which summarizes ambient air quality in Ireland for the year (EPA, 2020f). The report should be examined by KCC on release in order to inform the Council of any change in the baseline environment and reviewed in detail prior to any mid-term review or new/varied plan. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analyzed by KCC, as available (at least every 6 years).

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
<ul style="list-style-type: none"> • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive. • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels. • To minimise emissions of greenhouse gasses. • Integrate sustainable design solutions into infrastructure. • Contribute towards the reduction of greenhouse gas emissions in line with national targets. • Promote development resilient to the effects of climate change. • Promote the use of renewable energy, energy efficient development and increased use of public transport. 	<p>transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the CDP.</p> <ul style="list-style-type: none"> • Contribute towards the target of aggregate reduction in • carbon dioxide (CO2) emissions in line with the Climate Act and the Climate Action Plan. • To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating. 	<p>and work above previous CSO figures.</p>		<p>5. The EPA report on greenhouse gas emissions sectorally on an annual basis.</p>

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
Cultural Heritage				
<ul style="list-style-type: none"> Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage. 	<ul style="list-style-type: none"> Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the CDP. Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the CDP. No permitted development which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features. To increase the number of uninhabited and derelict structures that are restored. 	<ul style="list-style-type: none"> Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the CDP. Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the CDP. Archaeological Impact Assessments, and/or the number and types of archaeological investigations undertaken. Recorded numbers of non-designated built heritage e.g., vernacular buildings. The number of design statements/public realm plans/Masterplans undertaken for settlements/opportunity sites. Visitor numbers for iconic cultural heritage sites. Number of literary, musical, artistic and other cultural initiatives undertaken in the county. 	<ol style="list-style-type: none"> An Bord Pleanala/Kildare County Council Planning Records. Monitoring related to relevant Local Area Plans and County/City Development Plans or RSES's. Monitoring of the effects of capital investment project development required under separate processes (EIA, AA). Registers of nationally protected sites and structures. 	<ol style="list-style-type: none"> Planning records from An Bord Pleanala or KCC should be reviewed and recorded at least at the plan min-term review stage (3 years). Assessment and recording of trends are recommended on an annual basis if feasible. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analyzed by KCC, as available (at least every 6 years). In accordance with the monitoring provisions of EIA/AA. NPWS (National Parks and Wildlife Services), NMS (National Monuments Service), UNESCO, the National Inventory of Architectural Heritage and the Department of Housing, Local Government and Heritage are responsible for monitoring the conditions of, recording the presence of, and conserving Ireland's protected sites on a routine basis.

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
Landscape				
<ul style="list-style-type: none"> To implement the identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention. 	<ul style="list-style-type: none"> No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the CDP. 	<ul style="list-style-type: none"> Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the CDP. Number of planning permissions granted in areas of high value landscape. Number of permissions granted within 500m of a scenic route. 	<ol style="list-style-type: none"> An Bord Pleanala/Kildare County Council Planning Records. Landscape Characters Assessments as part of County Development Plans. Monitoring of the effects of capital investment project development required under separate processes (EIA, AA). Monitoring related to relevant Local Area Plans and County/City. CORINE mapping resurvey. 	<ol style="list-style-type: none"> Planning records from An Bord Pleanala or KCC should be reviewed and recorded at least at the plan min-term review stage (3 years). Assessment and recording of trends are recommended on an annual basis if feasible. Landscape Character Assessments to be conducted by the local authority as part of County Development Plans, every six-years. In accordance with the monitoring provisions of EIA/AA Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analysed by KCC, as available (at least every 6 years). European Communities (EC), varies.
Material Assets				
<ul style="list-style-type: none"> To promote sustainable development that matches existing and new infrastructure with the proposed 	<ul style="list-style-type: none"> Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures. To improve access to sustainable modes of transport. 	<ul style="list-style-type: none"> The number of completed infrastructure projects identified in the KCDP. Proportion of people reporting regular cycling / walking to school and work above previous CSO figures. 	<ol style="list-style-type: none"> An Bord Pleanala/Kildare County Council Planning Records. EPA Remedial Action Lists. EPA Urban Wastewater Treatment Reports. 	<ol style="list-style-type: none"> Planning records from An Bord Pleanala or KCC should be reviewed and recorded at least at the plan min-term review stage (3 years). Assessment and recording of trends are

Objectives	Targets	Indicators	Monitoring Source	Monitoring Frequency and Responsibility
<p>population growth for the county.</p>	<ul style="list-style-type: none"> • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes. • Reduce waste sent to landfill and increase waste sent for recycling and energy generation. • Not to permit development where it would result in a WWTP exceeding the terms of its discharge license. • Promote population growth in areas served by urban wastewater treatment plants and public water supplies in accordance with the National Planning Framework. • Support septic tank inspections in accordance with the Domestic Wastewater Treatment Systems National Inspection Plan. • Increase in community assets, facilities and services in an area. 	<ul style="list-style-type: none"> • The number and extent of Water Treatment Plans on EPAs Remedial Action List. • The amount of access to sustainable modes of transport. • Roll out of National Broadband Plan - Number of households serviced and % of households with the minimum broadband speed of 30Mbps and % of households with the target broadband speed of 100Mbps. • The number of renewable energy projects permitted, and enabling/supporting infrastructure provided. 	<ol style="list-style-type: none"> 4. Monitoring of the effects of capital investment project development required under separate processes (EIA, AA). 5. Monitoring related to relevant Local Area Plans and County/City Development Plans or RSES's. 6. CSO Population and Gas Consumption Data. 	<p>recommended on an annual basis if feasible.</p> <ol style="list-style-type: none"> 2. The EPA releases a Remedial Action List every Quarter which identifies problems with drinking water supply. KCC should have regard to issues pertaining to KCC water treatment plants. 3. The EPA publish an Urban Wastewater Treatment Report each year which identifies areas in Ireland where there are issues with treatment and effluent quality as well as capacity issues. KCC should have regard to issues pertaining to KCC treatment plants. 4. In accordance with the monitoring provisions of EIA/AA. 5. Any monitoring data carried out by KCC as part of LAP reviews within the County should be gathered, accumulated and analysed by KCC, as available (at least every 6 years). 6. CSO, every 6 years.

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Appendix A

Figures

Appendix B

**Policies and Objectives outlined
in Volume 1 of the Draft CDP**

B1 Assessment of Provisions of Volume 1 of the Draft Kildare CDP

Table B1 Assessment of Provisions of Volume 1 of the Draft Kildare CDP

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 2- Core Strategy								
Ensure that the future growth and spatial development of County Kildare is in accordance with the population and housing allocations contained in the Core Strategy which aligns with the regional growth strategy as set out in the National Planning Framework and Regional Spatial and Economic Strategy for the Eastern and Midland Region and further specified in the ‘Housing Supply Target Methodology for Development Planning’.								
Ensure that the future growth and spatial development of County Kildare provides for a county that is resilient to climate change, enables the decarbonisation of the county’s economy and reduces the county’s carbon footprint in support of national targets for climate mitigation and adaption objectives as well as targets for greenhouse gas emissions reductions.								
Ensure that sufficient zoned and adequately serviced lands are available to meet the planned population and housing growth of settlements throughout the county in line with the Core Strategy and the Settlement Hierarchy.								
Promote compact growth and the renewal of towns and villages through the development of underutilised town centres and brownfield sites, maintaining a ‘live’ baseline dataset and to monitor the delivery of population growth on existing zoned and serviced lands to achieve the sustainable compact growth targets of 30% of all new housing within the existing urban footprint of settlements.								
Promote and initiate where feasible measures to reduce vacancy and the underutilisation of existing building stock and support initiatives that promote the reuse, refurbishment and retrofitting of existing buildings within settlements throughout the county								
Promote and facilitate the development of sustainable and socially integrated communities through land use planning, by providing for land uses capable of accommodating employment, community, leisure, recreational and cultural facilities having regard to the quality of the environment, landscape character and the archaeological and architectural heritage.								
Support the implementation of Kildare’s Climate Change Adaptation Plan in conjunction with all relevant stakeholders.								

Review and prepare on an ongoing basis a portfolio of Local Area Plans (LAPs) for the mandatory LAP settlements of Naas, Maynooth, Newbridge, Leixlip, Kildare, Athy, Celbridge, Kilcock, Monasterevin, Sallins, in accordance with the objectives of the County Development Plan and all relevant Section 28 Ministerial Guidelines.										
Inform and engage with the preparation of the emerging Local Economic and Community Plan (LECP) for the county which will promote and support the economic and community development of Kildare.										
Leverage funding from all available sources including the Urban Regeneration and Development Fund (URDF) and the Rural Regeneration and Development Fund (RRDF) to help secure the equitable delivery of key projects that will contribute to town and village renewal across Kildare and to endeavour to ensure key project plans are, where possible, prepared in advance of funding announcements, particularly in more densely populated areas north of the county										
Require that the design of future developments occurs in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creates a safe, attractive, universally accessible environment for pedestrians and cyclists, where measurably adequate transport links are in place, or will be situated, close to new developments and, insofar as possible, to existing developments which would benefit from them										
Engage with public infrastructure providers including Irish Water and local communities to provide serviced sites with appropriate infrastructure for people to build their own homes in designated towns and villages, subject to all relevant planning and environmental criteria as a sustainable alternative to one off housing.										
Monitor the take up of available employment related land use zonings throughout the county every two years following the adoption of the Plan in order to determine if further lands need to be zoned for employment purposes at particular locations.										
Review the existing quantum of employment related land use zonings in each of the Local Area Plan (LAP) towns as part of the review of each of the LAPs. Additional lands may be zoned for employment purposes, as necessary and appropriate in accordance with the principles of proper planning and sustainable development.										
Continue to work in a positive and proactive manner with key stakeholders to identify ways of attracting investors and employers to locate in Kildare, in partnership with the Kildare Chamber of Commerce, the Kildare Local Enterprise Office and the IDA.										
Continue to work with the educational institutions throughout the county and Solas, in order to further enhance the already existing highly skilled labour force in Kildare and to encourage improvements in the labour force to include the development of specific apprenticeships in the technology, tourism, youth and childcare sectors during the lifetime of the plan to enhance and develop the agility of the workforces in those sectors										
To consider aligning the Kildare County Development Plan 2023-2029, with the up to date population from the forthcoming Census, where there are verified material population differentials to those forecast in table 2.8 of the Plan, by way of a statutory variation pursuant to Section 13 of the Planning and Development Act 2000 (as amended).										
To actively engage with the Eastern Midlands Regional Assembly during the mid-term review of the Regional Spatial and Economic Strategy and to inform the consideration of how urban settlements are designated within the region.										

Section 10(1A) of the Planning Act requires that the development plan includes a core strategy which: “shows that the development objectives in the development plan are consistent, as far as practicable, with national and regional development objectives set out in the National Planning Framework and the regional spatial and economic strategy and with specific planning policy requirements specified in guidelines under subsection (1) of section 28”.

The Overall Aim of the Kildare CDP, according to the Draft Core Strategy and Settlement Strategy is to “provide for the delivery of an additional 9,144 housing units to accommodate an additional 25,146 people by the end of the Plan period, through the delivery of sustainable, compact settlements supported by a commensurate level of physical and social infrastructure to mitigate against climate change”.

The framework for the Draft Core Strategy is based on the key principles and objectives of the NPF, RSES including the MASP and Specific Planning Policy Requirements (SPPRs) of the Ministerial Guidelines. It applies a compact growth philosophy to the existing urban footprint of settlements in the county through the consolidation within the existing urban footprint, by ensuring 30% of all new homes are targeted within the existing built-up areas, in line with the NPF National Strategic Outcome.

This means that the extent of zonings on peripheral greenfield development sites will need to be critically evaluated with regard to their compatibility with the renewal and regeneration targets set out in the NPF. The promotion of a compact urban form of development is a central part of mitigating climate change. The policies and objectives of this Core Strategy seek to provide for a consolidated urban form within existing settlements.

The delivery of the Settlement Strategy in Kildare is likely to result in an overall positive effect on population and human health through the accommodation of an additional 25,146 people. The stipulation in the Core Strategy that development be delivered in a sustainable and compact way is likely to result in a neutral environmental effect as development will be focused within the existing built-up footprint on suitably zoned, previously developed land insofar as possible. This discourages urban sprawl, reduces traffic movements, enhances the public realm and encourages more sustainable transport methods.

The remaining Core Strategy objectives relate to urban renewal and regeneration in favour of compact growth, decarbonisation and support of national targets for climate change mitigation and adaptation, provision of sustainable transport and other required infrastructure, enhancement of employment opportunities. The Core Strategy Objectives generally give rise to neutral or positive environmental effects. Uncertain environmental effects are identified for the purposes of this assessment where development is stipulated; but the extent and location of the same are not known at this time. This includes objectives: CSO 1.4, CSO 1.5, CSO 1.6 and CSO 1.12.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the County, in combination with other Plan provisions and other plans, programmes, strategies, etc.

	Population and Human Health
	Biodiversity
	Land and Soil
	Water
	Air, Noise and Climate
	Heritage
	Landscape and Visual
	Material Assets

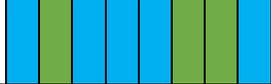
Chapter 3- Housing							
Have regard to the DHLGH Guidelines on: - Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes and Sustaining Communities (2007); - Sustainable Urban Housing: Design Standards for New Apartments (2020); - Sustainable Residential Development in Urban Areas (2009); - Urban Design Manual: A Best Practice Guide (2009); - Urban Development and Building Heights – Guidelines for Planning Authorities (2018) - Housing Options for our Aging Population (2020) and Age Friendly Principles and Guidelines for the Planning Authority (2021); - Design Manual for Urban Roads and Streets (DMURS) (2019).							
Accord with the provisions of the National Planning Framework 2018, the Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019 (including the Metropolitan Area Strategic Plan) and the Ministerial Circular relating to Structural Housing Demand in Ireland and Housing Supply Targets, and the associated Section 28 Guidelines: Housing Supply Target Methodology for Development Planning (2020) and make provision for the scale of population growth and housing supply targets outlined in these plans and guidelines							
Implement, in conjunction with the Housing Section, the Housing Strategy and Housing Need Demand Assessment (HNDA) to meet the projected population, changing household size and housing needs, including social and affordable housing requirements for County Kildare over the lifetime of the County Development Plan.							
To secure the implementation of the Kildare County Housing Strategy in accordance with the provisions of national legislation and relevant policies and standards.							
Ensure that sufficient zoned land continues to be available at appropriate locations to fulfil the housing requirements of the county.							
Ensure that sufficient land is zoned at appropriate locations in compliance with the Core Strategy and Settlement Strategy of the Development Plan, in order to meet the likely future housing demands identified in the Housing Strategy and HNDA.							
Co-operate with the Eastern and Midland Regional Assembly in planning for new homes and meeting housing needs for the Dublin Metropolitan Area (which includes Maynooth, Leixlip, Celbridge, and Kilcock) through the implementation of the Dublin Metropolitan Area Strategic Plan.							
Promote residential densities appropriate to its location and surrounding context.							
Ensure appropriate densities are achieved in accordance with the Core Strategy in Chapter 2 of this Plan, and in accordance with the principles set out in Guidelines for Planning Authorities on Sustainable Urban Development (Cities, Towns and Villages), DEHLG, 2009, Urban Design Manual: A Best Practice Guide, DEHLG, 2009; Urban Development and Building Height Guidelines for Planning Authorities (2018); and with reference to Circular Letter NRUP 02/2021 (April 2021).							
Ensure a strategic approach to building height in urban settlements that accords with The Urban Development and Building Height Guidelines for Planning Authorities (2018) and in particular, Specific Planning Policy Requirements (SPPR) 1 to 4.							
Encourage increased densities that contribute to the enhancement of a town or village by reinforcing street patterns or assisting in redevelopment of backlands and centrally located brownfield sites							
Ensure a balance between the protection of existing residential amenities, the established character of the area and the need to provide for sustainable residential development is achieved in all new developments.							
Promote and support residential consolidation and sustainable intensification and regeneration through the consideration of applications for infill development, backland development, re-use/adaptation of existing housing stock and the use of upper floors, subject to the provision of good quality accommodation.							
Ensure that groups with specialist housing needs, such as the elderly, people with disabilities, the homeless, Travellers, those in need of emergency accommodation, including those fleeing domestic violence, are accommodated in a way suitable to each of their specific needs,.							

Support new housing provision over the Plan period to deliver compact and sustainable growth in the towns and villages in the County, and supporting urban renewal, infill and brownfield site development and regeneration, to strengthen the roles and viability of the towns and villages, including the requirement that at least 30% of all new homes in settlements be delivered within the existing built-up footprint.									
Promote the transformation of key brownfield sites and identified regeneration areas into successful socially integrated neighbourhoods and promote area regeneration in parts of the urban centres which require physical improvement and enhancement in terms of quality of life, housing and employment opportunities.									
That the future development of institutional land be cognisant of the historical and cultural importance of the land including through, inter alia, the quantitative and qualitative provision of open space required under Section 15.6.6 (Chapter 15 – Development Management Standards) and the sensitive reuse of Protected Structures within the site.									
Support the revitalisation of the social and physical fabric of town and village centres by: a) Resisting, and where the opportunity arises, reversing the loss of residential use on upper floors. b) Supporting the use of the upper floors of existing town and village centre buildings for appropriate uses, including residential.									
‘Support and promote the renovation and re-use of obsolete, vacant and derelict homes, through the following measures; (i) Encourage the redevelopment and reuse, including energy retrofitting, of the existing housing stock. (ii) Support Government programmes and incentives to bring empty homes into use through various means, including potential expansion of the Town and Village Renewal Scheme as referred to in the Government’s Rural Development Policy 2021-2025. (iii) Maximise the effective use of local authority housing stock and minimise local authority housing stock vacancy, including through effective refurbishment and retrofitting of older stock where appropriate. (iv) Promote the conversion of vacant properties into new social and affordable homes through schemes including the Repair and Leasing Scheme and the Buy and Renew Scheme, and long-term leasing. Kildare County Council will endeavour to promote these schemes and encourage owners of vacant properties to avail of these schemes, directly or in co-operation with Approved Housing Bodies.									
Promote the design and delivery of environmentally sustainable and energy efficient housing, including through the refurbishment and upgrading of existing stock.									
Continue to work with developers and residents of private residential developments, where possible, to address public safety and environmental / infrastructural issues within unfinished housing estates.									
Encourage the establishment of sustainable residential communities by ensuring a wide variety of housing typologies and tenures is provided throughout the county. a) Require that new residential developments provide for a wide variety of housing types, sizes and tenures. b) Specify target housing mixes, as appropriate, for certain sites and settlements as part of the Local Area Plan process. c) Require the submission of a ‘Statement of Housing Mix’ with all applications for 10 or more residential units. d) Require that all new residential developments in excess of 5 residential units provide for a minimum of 20% universally designed units in accordance with the requirements of ‘Building for Everyone: A Universal Design Approach’ published by the National Disability Centre for Excellence in Universal Design. Further detail in respect of unit mix is set out in Chapter 16: Development Management Standards									
Promote the provision of high-quality apartments within sustainable neighbourhoods by achieving suitable levels of amenity within individual apartments, and within each apartment development, and ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood. Apartment development must be designed in accordance with the provisions of Sections 15.2, 15.3 and 15.4 (Chapter 15), where relevant, to ensure a high standard of amenity for future residents.									
Require new apartment developments to comply with the Specific Planning Policy Requirements and standards set out in the Apartment Guidelines for Planning Authorities (Department of Housing, Environment and Local Government, 2020), where relevant.									

<p>The Council will seek to resist further development which would serve to extend ribbon development, save in circumstances where a “gap site” is evident within the existing ribbon pattern, where one individual dwelling is proposed. Such proposals will be considered only in the following circumstances: (i) The applicant can demonstrate an Economic or a Social Need (as outlined in Table 3.4), 73 (ii) existing or shared accesses are used where practicable, and it is demonstrated (through the submission of documentary evidence) that no alternative site exists outside of the ribbon where the development is proposed. (iii) a ‘Gap Site’ is defined as a site located within a line of existing and permitted dwellings, where one dwelling only will be accommodated, and other than agricultural access to lands to the rear (if required), the site should fully occupy the gap between existing and permitted dwellings. (iv) All other technical considerations are addressed. Proposals for development which would extend the ribbon will not be considered under this policy.</p>									
<p>Preserve and protect the open character of transitional lands particularly the approach roads to towns and villages and areas immediately outside of settlement boundaries in order to prevent linear sprawl near towns, villages and settlements and to maintain a clear demarcation and distinction between urban areas and the countryside and to protect the integrity of the agricultural uses in these areas.</p>									
<p>Consider proposals for backland development for family members only. Proposals for such development must demonstrate that the proposed development would not have a negative impact on third parties/neighbouring property owners by way of overlooking/orientation of dwelling. Sufficient screening will be required to be provided and proposal for this shall be submitted with the planning application and must be in place prior to occupation of the dwelling. Particularly sensitive design approaches should be considered in these instances.</p>									
<p>Require that new dwellings incorporate principles of sustainability and green principles in terms of design, services and amenities with careful consideration in the choice of materials, roof types (i.e. green roofs), taking advantage of solar gain/passive housing and the provision of low carbon and renewable energy technologies, as appropriate to the scale of the development. Other sustainable principles could include the use of Sustainable Urban Drainage Systems (such as attenuation ponds and grass lined swales), the use of gravel or grasscrete rather than permanent paving/tarmac for driveways, landscaping and planting for biodiversity/pollinators and adequate waste segregation and storage space, as set out in Section 15.4 of Chapter 15 the (Development Management standards) and the Rural House Design Guide contained in Appendix 4.</p>									
<p>Require that all applications demonstrate the ability to provide safe vehicular access to the site without the necessity to remove extensive stretches of native hedgerow and trees or can demonstrate existing hedgerow is not native and provide a landscape design to reinstate a hedgerow to outline proposals for replacement of same or comparative.</p>									
<p>Retain, sensitively manage and protect features that contribute to local culture heritage and distinctiveness including;</p> <ul style="list-style-type: none"> • heritage and landscape features such as post boxes, pumps, jostle stones, etc. • hedgerows and trees, • historic and archaeological features and landscapes, • water bodies, • ridges and skylines, • topographical and geological features and • important scenic views and prospects 									
<p>Protect and maintain all surface water drainage at curtilage of site. Where site works impact on surface water drainage effective remedial works will be instated.</p>									
<p>Promote the re-use and sensitive restoration of existing dwellings, particularly those of traditional architecture. Regard should be had to Kildare County Council’s “Reusing Farm Buildings – A Kildare Perspective”, (2006) and any other design guidelines issued during the period of the Plan.</p>									

<p>Encourage the sensitive restoration of derelict traditional structures as an alternative to the construction of a one-off dwelling elsewhere subject to the following:</p> <ul style="list-style-type: none"> - The vernacular dwelling must be capable of being suitably restored to habitable accommodation in keeping with its original character without the necessity to demolish or significantly alter it. - Documentary evidence to include a structural survey and photographs. - The distinctive character and original historic fabric of the structure is retained using appropriate traditional construction methods and materials. - The applicants or proposed occupants will not be required to comply with local need criteria, identified in the Plan (Table 3.4). <p>Normal planning, siting and design considerations will be taken into consideration.</p>	Green	Blue	Blue	Blue	Blue	Yellow	Green	Blue
<p>Support and encourage the appropriate refurbishment, conversion and adaptation of existing rural building stock, such as former schoolhouses stone outbuildings and coach houses, where feasible, as a sustainable alternative to new build.</p>	Green	Blue	Blue	Blue	Blue	Yellow	Green	Blue
<p>Facilitate, where it is demonstrated by an applicant that a dwelling is no longer suitable for habitation, its replacement with a new dwelling subject to the applicant demonstrating and submitting the following with the application:</p> <ol style="list-style-type: none"> I. The structure must last have been used as a dwelling and the external walls must be identifiable/visible. the internal and external walls and roof must be intact. II. A report from a suitably qualified competent person shall be submitted to verify that the dwelling is habitable (or not) and but that replacement of the dwelling is the most sustainable option. III. Documentary evidence of the most recent date of occupation. IV. Normally a condition to demolish the existing dwelling will be included in any grant of permission. V. Require applicants to comply with local need criteria identified in Table 3.4 of the Plan. Normal planning considerations will be taken into account in the assessment of planning applications for replacement dwellings. VI. In cases where an applicant/occupant wishes to replace an existing habitable dwelling on the same footprint and of the same or similar floor area there will be no requirement to comply with local need criteria identified in this Plan. 	Green	Blue	Blue	Blue	Blue	Blue	Green	Blue
<p>Consider, applications for one-off housing in areas bordering neighbouring counties, where the proposed site is located on family land within County Kildare, at a distance of up to 2km located in Zone 1 and up to 5km located in Zone 2, from the county boundary. Applicants will be required to demonstrate, to the satisfaction of the planning authority, that no suitable family-owned site is available in the adjoining county and that all other aspects of rural housing policy including local need, siting and design are complied with. The applicant shall also fully demonstrate that they are building their first rural dwelling and that it will be for their permanent place of residence.</p>	Green	Red	Red	Red	Red	Yellow	Red	Red
<p>Promote and facilitate the provision of sustainable alternatives to one off housing through the designation of lands specifically for serviced sites across a series of villages and rural settlements in County Kildare.</p>	Green	Blue	Blue	Blue	Blue	Green	Blue	Blue
<p>It is a policy of the Council to ensure that all development on sites designated “Serviced Sites” in Volume 2 of the Draft County Development Plan 2023-2029 comply, in full, with the KCC Serviced Sites Initiative Scheme. No development shall take place on sites designated “Serviced Sites” until such time as the KCC Serviced Sites Initiative Scheme is agreed by the Elected Members of Kildare County Council. Any development proposal submitted in advance of the schemes will be considered premature pending adoption of the KCC Serviced Sites Initiative Scheme.</p>	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
<p>Identify a series of pilot project sites (private and local authority owned lands) for the initiation of a “County Kildare Serviced Sites Initiative” and progress their delivery.</p>	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Blue
<p>It is an objective of the Council to ensure that any applicant for the provision of a dwelling unit on lands designated “Serviced Sites” complies in full with the local need criteria as set out in Table 3.4 which must be satisfactorily demonstrated through the submission of documentary evidence to illustrate compliance with all housing need requirements.</p>	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue

<p>It is an objective of the Council to ensure that the development of any serviced sites;</p> <ul style="list-style-type: none"> - Adequately address infrastructural requirements, including water, wastewater and surface water drainage as well as footpaths and lighting which shall link with the respective town/village/rural settlement - Provide for small scale housing developments (no more than 10 units per hectare) - Include a Design Statement for the overall site to inform the design, mix and type of proposed dwelling - Include a clear timeframe for delivery of the required infrastructure to service the development proposed 							
<p>Engage with the Department of Housing, Local Government and Heritage to leverage funding through the ‘Croí Cónaithe’ (Towns) Fund to deliver serviced sites in towns and villages to cater for sustainable alternatives to one off housing in accordance with NPO 18b of the National Planning Framework</p>							
<p>It is an action of the Council to prepare a County Kildare to guide the development of serviced sites, no later than 6 months of the adoption of this Plan. This policy document shall</p> <ol style="list-style-type: none"> 1) Ensure that the delivery of ‘serviced sites’ be determined following close consultation with the relevant landowners, service providers and all other relevant stakeholders 2) Consider how best to deliver the overall scheme whether by co-operative group(s) or otherwise 3) Ensure that part of the overall ‘serviced sites’ land be provided for social/affordable housing 4) Explore mechanisms to support the delivery of affordable homes 							
<p>Sensitively consider the capacity of the receiving environment to absorb further development of the nature proposed through the application of Kildare County Councils ‘Single Rural Dwelling Density’ Toolkit (see Appendix 11) and facilitate where possible those with a demonstrable social or economic need to reside in the area. In this regard, the Council will:</p> <ul style="list-style-type: none"> • examine and consider the extent and density of existing development in the area, • the degree and pattern of ribbon development in the proximity of the proposed site 							
<p>Carefully manage Single Rural Dwelling Densities to between 15 and 25 units per square kilometre and ensure that the density of one-off housing does not exceed 25 units per square kilometre, unless the applicant is actively engaged in agriculture, or an occupation that is heavily dependent on the land and building on their own landholding.</p>							
<p>Continue, in conjunction with All Island Research Observatory (AIRO), Maynooth University, to monitor and map the level and pattern of one-off housing in rural areas during the period of the Development Plan as a means of monitoring and informing the rural housing policy.</p>							
<p>Require all applications to demonstrate, to the satisfaction of the Planning Authority that the proposed development site can accommodate an on-site wastewater treatment system in accordance with the EPA Code of Practice for Wastewater Treatment Systems for single houses (2021), the County Kildare Groundwater Protection Scheme, and any other relevant documents / legislation as may be introduced during the Plan period.</p>							
<p>Restrict new accesses for one-off dwellings onto regional roads, where the 80km/hr speed limit applies in order to avoid the premature obsolescence of regional roads, (see Chapter 5), through the creation of excessive levels of individual entrances and to secure investment in non-national roads.</p>							
<p>Require that proposals retain and maintain existing hedgerows in all instances, with the exception only of the section required to be removed to provide visibility at the proposed site entrance. On such cases, proposals for replacement hedgerows, including details of composition and planting must be submitted with any application which requires such removal.</p>							
<p>Strictly control developments which require vehicular access from public roads that were formerly towpaths or from existing towpaths along the Grand Canal and Royal Canal. This is in addition to restrictions relevant to the Canals’ designation as Proposed Natural Heritage Areas (pNHAs). It is policy to consider housing applications for established families only along roads that were formerly towpaths along the Canals and that such developments will be strictly controlled</p>							

<p>Require that the design of entrance gateways should be in keeping with the rural setting. All applications for a dwelling in a rural area should include detailed drawings and specifications for entrance treatments. The roadside boundary should ideally consist of a sod/earth mound/ fencing planted with a double row of native hedgerow species.</p>	
<p>Require that site specific flood risk assessments are carried out where required, in accordance with the requirements of The Planning System and Flood Risk Management Guidelines for Planning Authorities</p>	
<p>The Core Strategy outlines a housing supply target of approximately 9,144 housing units for the county to the end of the Plan period. Chapter 2 sets out growth targets for towns, villages, settlements and rural areas during the Plan period. Growth is directed based on the status of the town or settlement within the settlement hierarchy and the capacity of physical and social infrastructure and the environment to accommodate growth. The Plan will support consolidation through infill development and the redevelopment of areas that are in need of renewal and the sustainable extension of established urban areas.</p> <p>The delivery of the Settlement Strategy in Kildare is likely to result in an overall positive effect on population and human health through the accommodation of an additional 25,146 people. The stipulation in the Core Strategy that development be delivered in a sustainable and compact way is likely to result in a neutral environmental effect as development will be focused within the existing built-up footprint on suitably zoned, previously developed land insofar as possible. This discourages urban sprawl, reduces traffic movements, enhances the public realm and encourages more sustainable transport methods.</p> <p>Increased densities, regeneration, renewal and the redevelopment of backland/brownfield sites is likely to result in a positive impact on population and human health through the provision of required housing and/or facilities. The promotion of compact growth and the renewal of towns and villages will likely have a positive impact on population and human health, as well as air quality and climate as it discourages urban sprawl, reduces traffic movements and encourages more sustainable transport methods. An uncertain effect is identified on heritage and landscape and visual impact for the purpose of this assessment. Redevelopment of a town centre has the potential to impact architectural heritage, depending on the heritage value of the town. Higher density buildings can also have a negative effect on the landscape and visual setting. While compact growth and regeneration such as this can result in a positive effect on material assets through the consolidation of services, and increased reliance on public transport, it can also put a strain on resources, should there not be sufficient capacity. An uncertain effect on material assets is therefore identified for the purposes of this assessment.</p> <p>A number of the Housing objectives set out in the Kildare CDP have been identified, for the purposes of this assessment, as having the potential to give rise to ‘uncertain’ environmental effects. This is because the exact location or extent of some of the development stipulated by the Housing objectives is not known at this time. The site-specific zoning assessment may provide greater clarity.</p> <p>It is recommended to KCC that, insofar as possible, and where relevant, the following wording be included in those Objectives where an uncertain environmental effect is identified in this assessment: ‘in accordance with the findings of all relevant environmental assessments’ or ‘in accordance with all relevant planning and environmental conditions.’</p> <p>A potential negative environmental effect is identified with regards objective HO P11. This objective is likely to result in a positive effect on population through the provision of required housing. However, the development of rural housing outside of settlements has the potential to result in a negative effect on the environmental aspects indicated in this assessment. The mitigation measures set out in in this ER should work to avoid or reduce the negative environmental effects of this objective.</p> <p>KCC Recommendation: Change wording to "Facilitate, subject to all appropriate environmental assessments..."</p> <p>A potential negative environmental effect is also identified with regards objective HO P20 and HO P22. The development of rural housing outside of settlements has the potential to result in a negative effect on the environmental aspects indicated in this assessment. The mitigation measures set out in Section 9 should work to avoid or reduce the negative environmental effects of this objective.</p> <p>KCC Recommendation: Include wording 'Applicants will be required to demonstrate, to the satisfaction of the planning authority that... and that no significant negative environmental effects will occur as a result of the development.'</p>	

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 4- Resilient Economy and Job Creation								
Facilitate and support the growth of the economy in Kildare and the Greater Dublin Area in a sustainable manner, and in accordance with the Regional Spatial and Economic Strategy.								
Continue to promote Kildare, together with the Kildare Local Enterprise Office and national development agencies, as a strategically located economic and employment hub within the Greater Dublin Area and support and facilitate the development of an environment that fosters innovation, enterprise and entrepreneurship but also maintains a core focus on issues around climate change and biodiversity.								
Encourage mixed-use settlement forms and sustainable centres, in which employment and residency are located in close proximity to each other and strategic multi-modal transport corridors, and to reduce long distance commuter trends and congestion.								
Work with the business community and continue to develop, encourage and create an environment that supports innovation, enterprise and entrepreneurship within the county.								
Make the following amendment 'Ensure a high-quality living environment in Kildare which will help to retain the county’s indigenous skilled population and to attract additional high skilled labour into the county, and seek to address any deficit in social infrastructure, which would act as an impediment to a high-quality living environment.								
Make following amendments; 'Support enterprises and industry, including employment-intensive international business and technology parks, small and medium enterprises (SME) and micro enterprise centres at appropriate locations throughout the county.								
Support the use of town centre locations for new service focused enterprises.								
Consult with Transport Infrastructure Ireland (TII) on an on-going basis, particularly through the preparation of the County’s Local Area Plans, with respect to requirements regarding motorway building lines and ensure that zoning for employment uses will be carried out in a manner which protects the capacity of and investment in, the national road network.								
Seek to ensure that any significant future employment developments in the vicinity of the strategic road network will be accompanied by a mobility management plan that seeks to provide for an appropriate level of non-car based transport options, utilising the strategic public transport network.								
Work with Irish Water, to support the provision of water, wastewater treatment and waste management facilities to accommodate the future economic growth of the county and to seek to reserve capacity in water services infrastructure for employment generating uses.								
Facilitate the development of, and upgrade to, the broadband and fibre network of the county.								
Amend objective as follows; Acquire suitable land (subject to the availability of funding), including where appropriate, disused sites in State ownership and town centre sites, for creative and innovative entrepreneurial initiatives and the provision of clustered incubator units and digital hubs.								

<p>Have regard to the following in the preparation of spatial plans and in assessing planning applications for new development, or the expansion of existing development involving hazardous substances:- The Major Accidents Directive (SEVESO III, 2012/18/EU). Potential adverse impacts on public health and safety. · HSA Technical advice. · The need to maintain appropriate safe distances between residential areas, areas of public use and areas of natural sensitivity. · The need to minimise risk to strategic infrastructure. · The specialist advice of the Fire Authority.</p>									
<p>Support the accommodation of Data Centres at appropriate locations in line with the objectives of the National Planning Framework and the Government Statement on the Role of Data Centres in Ireland subject to appropriate Transport and Environmental Impact Assessments</p>									
<p>Require that any application for a data centre shall take account of the cumulative visual impact of the proposed connections of the data centre with electricity transmission, renewable energy and broadband infrastructure in the area.</p>									
<p>Require data centres to consider the use of sustainable renewable sources of energy to fuel their operations in whole in the first instance or in part where this is not possible and where it has been satisfactorily demonstrated not to be possible.’</p>									
<p>Ensure that economic and enterprise related development is provided in a manner which facilitates a reduction in greenhouse gas emissions and accelerates the transition towards a sustainable, low carbon and circular economy. The following measures shall be supported: · An increase in employment densities within walkable distances of communities and on public transport routes · Promotion of walking and cycling and use of public transport through increased permeability and mobility management measures within and outside employment areas · The sourcing of power from district heating and renewables including wind and solar. · Additional native tree planting and landscaping on existing and proposed enterprise zones and development sites to aid with carbon sequestration, contributing to the green infrastructure network of the County and promoting quality placemaking.</p>									
<p>Ensure that climate action and sustainable development is central to economic development in the County through sustainable land use and orderly growth and a co-ordinated approach to the preparation and implementation of the Kildare County Council Climate Change Adaptation Strategy (2019-2024) and the Local Economic and Community Plan (2016-2021) and any successors thereof.</p>									
<p>Support the growth of business in the green and circular economy and use the European Green Deal as a roadmap, which promotes a sustainable framework for economic transition and development.</p>									
<p>Promote net zero-carbon and carbon reduction in economic development through innovative design, low-carbon technology, use of Combined Heat and Power (CHP) and roll out of district heating and other renewable energy projects. All these actions are outlined within the National Climate Action Plan.</p>									
<p>Support the measures contained within Kildare’s Climate Change Adaptation Strategy (2019-2024), or any superseding plan, to integrate the Circular Economy approach with economic development initiatives</p>									
<p>Support the promotion of skills, education and awareness raising in the energy efficiency sectors, promoting smart technologies and well-connected communities.</p>									
<p>Support and promote sustainable rural based enterprises particularly those that help in achieving climate action goals, and to move away from fossil fuels in favour of low and zero-carbon sources including renewable energy and secondary heat sources and to support the development of green technologies.</p>									
<p>Support Bord Na Mona with proposals for their headquarters at Newbridge to become a Green Energy Hub, which focuses on the higher order aspects of the renewable energy industry and a climate action training centre.</p>									
<p>Support the Local Enterprise Office and specifically the ‘Green for Micro’ programme which officially launched in March 2021. The main objective of this free service is to help small businesses prepare for a low carbon, resource efficient future.</p>									

The overall aim of KCC with regards a Resilient Economy and Job Creation in the County is ‘to provide for the future well-being of the residents of the county by creating a strong and resilient economic base, providing expanded opportunities for employment and facilitating a good quality of life within vibrant and attractive places to live, work, visit and invest.’ Thus, the successful implementation of the policies and objectives relating to a resilient economy and job creation are likely to result in a general, overall positive effect on population and human health through the provision of job opportunities, educational opportunities, tourism opportunities and subsequent economic growth in the County.

As outlined in Chapter 4, the compact growth approach taken in this Development Plan, with its potential for helping to achieve climate action targets at local and national level, applies not just to residential development but also to economic development within the County.

Thus, similar to the assessment under the topic of ‘housing’, the promotion of compact growth and the large focus on town and village regeneration for economic opportunities will likely have a positive impact on population and human health, as well as air quality and climate as it discourages urban sprawl, reduces traffic movements and encourages more sustainable transport methods. An uncertain effect is identified on heritage and landscape and visual impact for the purpose of this assessment. Redevelopment of a town centre has the potential to impact architectural heritage, depending on the heritage value of the town. Higher density buildings can also have a negative effect on the landscape and visual setting. While compact growth and regeneration such as this can result in a positive effect on material assets through the consolidation of services, and increased reliance on public transport, it can also put a strain on resources, should there not be sufficient capacity. An uncertain effect on material assets is therefore identified for the purposes of this assessment.

A potential negative environmental effect is identified with regards Objective RE O16, which relates to the delivery of strategic infrastructure in the County to support future development. This objective is likely to give rise to a positive effect on population, air noise and climate and on material assets through the provision of required infrastructure, particularly sustainable transport infrastructure. An otherwise potentially negative effect is identified for the purposes of this assessment in that large scale linear infrastructure such as road or rail can give rise to negative environmental effects. Refer to mitigation measures. KCC Recommendation: include wording ‘subject to appropriate route option selection processes and environmental assessments.’

Another potentially negative environmental effect is identified with regards RE O58 which relates to the development of a Technical and Innovation Park in Maynooth and supporting infrastructure. A development such as this is likely to be large-scale, with the potential to give rise to increased traffic movements and increased emissions. Potential negative environmental effects are therefore identified for the purposes of this assessment on biodiversity, land and soils, water, air, noise and climate and on the landscape and visual setting. KCC Recommendation: Include wording ‘subject to all relevant and cumulative environmental assessments and planning conditions.’

The Councils policy and objectives relating to the accommodation of data centres in the County (RE P11, REO67 and RE O68) have the potential to result in a negative environmental effect. Similar to the above commentary on the REO58, data centre projects can be large-scale developments, with the potential to give rise to increased traffic movements and subsequent emissions and are extremely resource intensive. Potential negative environmental effects are therefore identified for the purposes of this assessment on biodiversity, land and soils, water, air, noise and climate and on the landscape and visual setting. KCC Recommendation: Include wording ‘subject to all relevant and cumulative environmental assessments and planning conditions.’

A number of objectives relate to the support and accommodation of businesses in the green and circular economy, as well as the general promotion of net-zero carbon and compliance with the Kildare Climate Adaptation Strategy which is likely to result in an overall positive environmental effect.

The Plan sets out a number of objectives of KCC relating to the development and promotion of greenways and blueways for tourism purposes. While the development and support of the same can result in positive effects, particularly on population, air quality and climate and material assets through the accommodation of pedestrian and cyclists and the subsequent provision of alternative, sustainable means of transport and reduced dependency on private vehicle use. However, any level of development and increased footfall along waterways or areas of habitat importance could result in a negative environmental effect, particularly with regard biodiversity and water quality. KCC Recommendation: Include wording ‘subject to all relevant and cumulative environmental assessments and planning conditions.’

The Plan additionally sets out a policy and range of objectives relating to peatland tourism (RE O119, RE O120, RE O121, RE O132). There is some potential for negative environmental effects with regards increased human interaction with peatland in the county, which can often carry national or European significance due to its unique biodiversity sensitivity. Any proposals for development on or near peatland should be designed in compliance with all relevant planning and environmental conditions and following detailed environmental assessments.

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 5- Sustainable Mobility Transport								
Promote sustainable development through facilitating movement to, from, and within the County that is accessible to all and prioritises walking, cycling and public transport.								
Support the NTA Draft Transport Strategy for the Greater Dublin Area (2022-2042) and facilitate and secure the implementation of projects identified within the Strategy.								
Promote and drive a human-centred, whole journey approach to improving transport infrastructure and accessibility in County Kildare to ensure a seamless user experience.								
Ensure the application of universal design principles in all new transport infrastructure (including public transport pick up points) and strive to adapt existing infrastructure to become more accessible, where feasible, in accordance with the County Kildare Access Strategy – A Universal Access Approach (2020-2022) and the Department of Justice and Equality’s National Disability Inclusion Strategy (2017-2021).								
Support the use of gas in transport by a presumption in favour of applications for CNG refuelling infrastructure, subject to the satisfaction of normal planning and environmental criteria.								
Encourage the use of materials and engineering solutions that optimise natural surface water drainage as part of Sustainable Urban Drainage Systems (SUDS) with all new active travel, public transport, parking, road and street developments and ensure adequate replacement and additional planting of pollinator-friendly and native species.								
Support and encourage employers to develop and implement Workplace Travel Plans based on the NTA’s Workplace Travel Plans: A Guide for Implementers (2013).								
Introduce measures to reduce traffic congestion in town centres such as pedestrianisation, pedestrian priority and/or improved pedestrian facilities, in particular increasing the number of safe crossings.								
The following objective shall be inserted after TM O7; 'It is an objective of the Council to investigate the feasibility of locations for car-free residential developments, town centre and other in appropriate locations near high quality, frequent public transport services, as part of the preparation of the suite of Local Area Plans'								
Prepare a County Kildare Sustainable Mobility Plan that addresses the long-term mobility needs of communities and businesses in the county. The plan should address urban and rural transport issues, the integration of transport modes and public transport connections between the towns and villages of the county.								

<p>Enforce and comply with European Communities (Environmental Noise) Regulations 2018 by:</p> <ul style="list-style-type: none"> - Regulating and controlling activities likely to give rise to excessive noise (other than those activities which require regulation by the EPA) - Requiring new developments and / or activities likely to give rise to excessive noise to install noise mitigation measures and monitors. 								
<p>Amend. Text added in red. Now to read as follows "Ensure noise sensitive development in proximity to national and other roads provides a noise impact assessment / Acoustic Design Statement to the requirements set out in the Noise Action Plan and Local Planning Advice Notes as may issue, and includes appropriate spatial consideration in the design phase and, where necessary, physical mitigation measures, such as noise barriers, set back landscaping and / or buffer zones between areas of land where development is proposed and existing / proposed national or other roads'.</p>								
<p>Require the design of external lighting schemes to minimise the incidence of light spillage or pollution into the surrounding environment having regard to the residential amenity of surrounding areas and the need to mitigate adverse impacts on biodiversity, particularly on river corridors.</p>								
<p>Investigate measures to improve the approach to street lighting and ensure new developments are lit appropriately protecting environmentally sensitive areas.</p>								
<p>The overall aim of the Council with regards infrastructure and environmental services is to “create an environment characterised by high quality infrastructure networks and environmental services that complement the overall settlement and economic strategy and ensures the health and wellbeing of those who live and work in the County, also securing the economic future of the County.”</p> <p>The plan objectives outlined in this chapter relate largely to the provision of adequate water and wastewater infrastructure. An overall positive effect on population and human health and material assets is identified through the provision of required services and maintenance of good health status. Positive effects on water quality, land and soil and biodiversity are also identified through the provision of adequately treated water and wastewater discharge.</p> <p>There is potential for some temporary negative environmental effects with regards the development of new infrastructure, particularly large-scale linear developments such as water supply schemes (IN O2). However, mitigation measures are proposed which will reduce or avoid significant negative effects arising.</p> <p>The range of objectives surrounding SUDS are welcomed and are likely to result in positive effects on biodiversity, water quality, land and soil and material assets through the provision of ecosystem services and the management of surface water run-off.</p>								
	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 7 Energy and Communications								
<p>Reduce our carbon footprint in line with national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emission reductions.</p>								
<p>Ensure that energy intensive sectors incorporate significant renewable energy sources to reduce their carbon footprint.</p>								
<p>Prepare, within 1 year of the adoption of the County Development Plan a Sustainable Energy Climate Action Plan (SECAP) for County Kildare to provide a baseline analysis for Kildare and for the inclusion of measurable targets on renewable energy and climate change mitigation and adaptation.</p>								

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 8 Urban Centres and Retail								
Develop County Kildare’s retail economy in accordance with national, regional and local policy in order to sustain and expand the retail sector as a catalyst for social and economic vibrancy.								
Ensure that the retail needs of the county’s residents are met as extensively as possible within Kildare, taking cognisance of the Regional and County Retail Hierarchies, to enable the reduction in the requirement to travel to meet these needs and in the interests of achieving greater social inclusion and accessibility to shopping and services across all sectors of the community.								
"Provide clear guidance on where major new retail floorspace would be acceptable throughout the county having regard to the County Retail Hierarchy as part of the preparation of the Local Area Plans."								
Continue to address leakage of retail expenditure from Kildare through securing the development of the appropriate quality and quantum of additional convenience, comparison and bulky goods floorspace at appropriate locations throughout the county.								
Sustain and enhance the increase in comparison expenditure inflows to the county, at regional, national and international level, through delivering a quality and quantum of retail offer in accordance with the Retail Planning Guidelines 2012.								
Reinforce the core of town and village centres as the priority location for new retail development, with quality of design and integration/linkage being fundamental prerequisites.								
Align, as far as practicable, new retail development with existing and proposed public transport infrastructure and services and encourage access by foot and bicycle to reduce the dominance of access by private car.								
Improve the accessibility of the town centre with particular emphasis on creating a high quality, safe and permeable environment that is easily accessible to pedestrians and cyclists.								
Encourage and facilitate the preservation and enhancement of the retail and services role of both individual villages and village/ settlement clusters around the county.								
Promote retail-led tourism in Kildare and to facilitate the provision of tourism infrastructure.								
Encourage and facilitate innovation and diversification in the county’s retail profile and offer.								

<p>Require applicants to ensure that proposal for retail development which are above the Plan’s assessment criteria thresholds demonstrate compliance with the assessment criteria of both the <u>Regional Planning Guidelines 2012</u> and the <u>Regional Retail Strategy</u>.</p>											
<p>Require applicants to demonstrate convincingly that their proposal is in compliance with the development plan. Where there is doubt on any aspect of a planning application, the Council will require a detailed justification related to the matter that is not wholly in compliance.</p>											
<p>The Councils overall aim with regards urban centres and retail is “to continue to promote and encourage town centres as our primary retail centres, at the heart of our communities so that they play a vital role in ensuring these areas remain attractive and liveable places and to make provision for additional retail, at appropriate locations and quantum’s where necessary.” The policies and objectives set out in this chapter are likely to give rise to overall positive effect on the population through the provision of enhanced retail services in the county. A range of objectives relate to the consolidation of retail services in town centres and the regeneration of derelict sites and buildings. These efforts are again likely to result in a positive effect on population and human health, air, noise and climate and on material assets through the The stipulation that development be delivered in a sustainable and compact way is likely to result in a neutral environmental effect as development will be focused within the existing built-up footprint on suitably zoned, previously developed land insofar as possible. This discourages urban sprawl, reduces traffic movements, enhances the public realm and encourages more sustainable transport methods. An uncertain effect is identified on heritage and landscape and visual impact for the purpose of this assessment. Redevelopment of a town centre has the potential to impact architectural heritage, depending on the heritage value of the town. Higher density buildings can also have a negative effect on the landscape and visual setting.</p>											
	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets			
Chapter 9- Our Rural Environment											
<p>Support and promote rural enterprises and encourage appropriate expansion and diversification in areas such as sustainable agriculture, forestry, peatlands, food, crafts, renewable energy at suitable locations in the county, particularly where they contribute to a low carbon and resilient economy.</p>											
<p>Encourage the development of appropriately scaled alternative rural based small-scale enterprises that are appropriate in rural areas. All planning applications for one off enterprises in rural areas shall have regard to the criteria listed in Table 9.1 of the Plan.</p>											
<p>Facilitate agriculture, horticulture, forestry, tourism, energy production and rural resource-based enterprise within the rural settlements and in appropriate rural locations subject to relevant development management standards.</p>											
<p>“Promote resource efficiency and support the shift toward a low-carbon and climate resilient economy in the agriculture (including signpost farms), food, and forestry sectors in County Kildare</p>											
<p>Encourage and facilitate the sensitive re-use of vernacular houses or farm buildings for farm diversification, agri-tourism, and other appropriate rural-based development.</p>											

<p>Ensure that development for aggregate extraction, processing and associated concrete production does not significantly impact the following:</p> <ul style="list-style-type: none"> - Special Areas of Conservation (SACs) - Special Protection Areas (SPAs) - Natural Heritage Areas (NHAs) - Other areas of importance for the conservation of flora and fauna. - Zones of Archaeological Potential. - The vicinity of a recorded monument. - Sensitive landscape areas as identified in Chapter 14 of this Plan. - Scenic views and prospects. - Protected Structures. - Established rights of way and walking routes. 						
<p>Consult with the Geological Survey of Ireland (GSI), with regard to any developments likely to have an impact on sites of Geological Importance listed in Chapter 12 of this Plan.</p>						
<p>Require applications for mineral or other extraction to include (but not limited to):</p> <ul style="list-style-type: none"> - An Appropriate Assessment under Article 6 of the Habitats Directive where any quarry / sand and gravel extraction are likely to have an impact on a Natura 2000 site (see Chapter 13). - An Environmental Impact Assessment Report (EIAR). - An Ecological Impact Assessment may also be required for sub-threshold developments to evaluate the existence of any protected species / habitats on site. - A detailed landscaping plan to be submitted indicating proposed screening for the operational life of the site. The predominant use of native plant species in the proposed landscaping plan will be expected. - Detailed landscaping and quarry restoration plans. Habitats and species surveying shall be carried out and shall influence the restoration plan for the site. - Comprehensive Site Restoration Plan and/or After-Use Strategy having regard to the principles of ‘Rehabilitation Ecology’ - Transport Impact Assessment 						
<p>Require, where permission is granted for quarrying / extraction of aggregates, the submission by the developer of a bond (cash deposit, bond from an insurance company or other security acceptable to the planning authority) to ensure the satisfactory completion and restoration of the site.</p>						
<p>Require road re-instatement work to be on-going during operations, in the interests of road and traffic safety. Works undertaken to re-instate/improve the public road should be undertaken by the quarry developer or paid by them and completed by the Council.</p>						
<p>Protect and safeguard the county’s natural aggregate resources from inappropriate development, by seeking to prevent incompatible land-uses, for example, rural housing that could be located elsewhere from being located in the vicinity of the resource, since the extraction of minerals and aggregates is resource based.</p>						
<p>Have regard to the following guidance documents (as may be amended, replaced, or supplemented) in the assessment of planning applications for quarries, ancillary services, restoration and after-use:</p> <ul style="list-style-type: none"> - Quarries and Ancillary Activities: Guidelines for Planning Authorities, DEHLG (2004). - Environmental Management Guidelines – Environmental Management in the Extractive Industry (Non-Scheduled Minerals), EPA (2006). - Archaeological Code of Practice between the DEHLG an ICF (2009). - Geological Heritage Guidelines for the Extractive Industry (2008). - Wildlife, Habitats, and the Extractive Industry – Guidelines for the protection of biodiversity within the extractive industry, NPWS (2009). 						
<p>Ensure the satisfactory and sensitive re-instatement and / or re-use of disused quarries and extraction facilities, where active extraction use has ceased. Future uses should include amenity, recreation and biodiversity areas and shall be informed by an assessment of the specific site/lands. Proposals for futures uses/infill of these areas should be agreed with the Planning Authority through the development management process.</p>						

<p>Require that quarry remediation plans provide for a minimum of 80% of the area to be provided for environmental benefit, biodiversity and re-wilding. Where other after-use strategies are proposed (i.e., concrete batching, etc.) that might require more than the 20% in use for ongoing economic purposes, then other lands (including other disused quarries) may be used to compensate any shortfall, either by condition of use, sterilisation/legal agreement, or rehabilitation and transfer to either the Council or an established wildlife group. The 80% requirement for environmental/biodiversity may be waived at sites closer to urban areas where a significant portion of the site is being provided for sports, recreation and amenity.</p>	
<p>The overall aim of the Council with regards the rural environment in Kildare is to ‘support and enable the provision of high-quality rural environments with an increased emphasis on the regeneration and renewal of our smaller rural towns and villages, sustaining the livelihoods of rural communities and promoting the development of the wider rural economy, all within the context of sustainable management of land and resources.’</p> <p>As outlined in the CDP, traditional sectors such as agriculture, extractive industries, and forestry will be important in helping Kildare reach targets in relation to climate change. With regards the rural economy and rural enterprise, an overall positive effect on the population is identified through the provision of enterprise, employment opportunity and economic growth. A generally uncertain environmental effect is identified as development in the rural environment is often associated with Greenfield development and as a result can give rise to negative environmental effects. All rural development should be carried out in compliance with all relevant planning and environmental conditions</p> <p>The policies and objectives relating to agriculture or the Agri food sector our again likely to result in an overall positive effect on the population through opportunities for enterprise development, economic growth job and employment. However, development of agriculture or Agri food sector related developments in County Kildare are likely to result in an overall negative effect on air quality in the climate given the levels of carbon emissions associated with some agricultural practices. Otherwise, uncertain environmental effects are identified for the purposes of this assessment as the type extent and nature of our cultural development or activities is currently unknown. Policies and objectives relating to the support and facilitation of equine and bloodstock industries are likely to result in an overall neutral environmental effect.</p> <p>Policies and objectives relating to horticulture and forestry are likely to result in overall positive environmental effects on biodiversity land and soil water air noise and climate and landscape visual setting as these enterprises are largely sustainable.</p> <p>A potential negative environmental effect is identified with regards objective RD O22 which relates to the facilitation of tourism infrastructure and visit visitor services including tourist accommodation in forest estates. Development in forested areas is likely to result in a negative effect on a range of environmental factors particularly where deforestation or tree removal is required. Recommendation for KCC: include wording “in accordance with all relevant planning and environmental conditions.”</p> <p>Many of the council's policies and objectives relating to peatlands, in particular, objectives RD O28 RD O29 and RD O31 have the potential to results in an overall negative environmental effect given the ecological sensitivity of the same. These objectives relate to the reuse of peatlands or bogs for tourism energy or other functions. KCC: include wording “in accordance with all relevant planning and environmental conditions.”</p> <p>Note to Kildare County Council: check wording of objective RD 027.</p> <p>The policies and objectives relating to extractive industries are likely to result in overall neutral environmental effects.</p>	
<p>Chapter 10- Community Infrastructure and Creative Places</p>	
<p>Chapter 10- Community Infrastructure and Creative Places</p>	

The Councils overall aim with regards community infrastructure and creative places is “to provide for and facilitate the development of healthy, sustainable, inclusive communities integrated with the timely delivery of a wide range of community, social, educational, recreational, and cultural facilities where accessibility and social inclusion is provided for all, ensuring County Kildare develops as a location with an enhanced quality of life for its citizens and visitors alike.”

The policies and objectives outlined in this chapter are likely to result in an overall positive effect on the population through the delivery and support of community infrastructure and creative places in Kildare, and the assurance that the facilities are accessible to all.

The objective of the council to cluster a range of services and facilities in urban or built-up areas insofar as possible is likely to result in a positive effect on the population air and climate and material assets through the continuation of the compact growth principle. This discourages urban sprawl, reduces traffic movements, enhances the public realm and encourages more sustainable transport methods.

A range of policies and objectives in this chapter however do stipulate development of infrastructure. As outlined previously, development of large-scale infrastructure has the potential to result in negative environmental effects on biodiversity, land and soil, water, air, noise and climate and the landscape. However, it is noted that the scale nature and location of the community services, facilities and infrastructure detailed in this chapter is not known at the time of this assessment an uncertain environmental effect is therefore identified in these instances.

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
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Chapter 11- Built Environment and Cultural Heritage

Recognise the value and opportunity of Kildare’s unique heritage resource and to manage, conserve and protect it, for present and future generations.								
Implement the actions of the County Kildare Heritage Plan 2019-2025 and subsequent heritage plans, in partnership with all relevant stakeholders.								
Protect and enhance archaeological sites, monuments and where appropriate and following detailed assessment, their setting, including those that are listed in the Record of Monuments and Places (RMP) or newly discovered archaeological sites and/or sub-surface archaeological remains.								
Manage development in a manner that protects and conserves the archaeological heritage of County Kildare, avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest and secures the preservation in-situ or by record of all sites and features of historical and archaeological interest. The Council will favour preservation in – situ in accordance with the recommendation of the Framework and Principles for the Protection of Archaeological Heritage (1999).								
Require archaeological impact assessment, surveys, test excavation and/or monitoring for planning applications in areas of archaeological importance and where a development proposal is likely to impact upon in-situ archaeological monuments, their setting and archaeological deposits, based on recommendations of a suitably qualified archaeologist								

Maintain the views from Castletown House to the River Liffey and to protect the integrity of the designed landscape at Castletown Demesne, including the pathways, avenues, and the following views: · Axial views between the Castletown House and Conolly’s Folly · Views between Castletown House and the Wonderful Barn · Views from the House to the river and across the back parterre · Views across the river and to the linked demesnes of Donaghcumper and St. Wolstans. · Views from the main avenue to the river towards Castletown, and up and down the river to Celbridge and New Bridges.									
"Maintain the views to and from Carton House and protect the character of the historic designed landscape within Carton Demesne, as outlined in Map 11.12."									
Support the re-development of Clongowes Wood College to ensure the continued and enhanced educational use of this protected structure. Any proposed development within the curtilage and/or attendant grounds must demonstrate that it is part of an overall strategy for the future conservation of the entire complex including the structures, demesne and/or attendant grounds.									
Preserve and protect the historic, architectural, and military heritage of The Curragh Camp. Ensure that proposed development within the curtilage and/or attendant grounds demonstrates that it is part of an overall strategy to protect the heritage significance of the entire Curragh Camp.									
"Ensure that, in the event of planning permission being granted for development within the curtilage and attendant grounds of a protected structure, a sustainable use and appropriate maintenance plan is in place for the structure and any associated buildings or structures of heritage interest. The proposed works to the protected structure should occur in the first phase of the development to prevent endangerment, abandonment and dereliction of the structure."									
Protect the designed landscapes associated with protected structures and retain important elements of the built heritage including historic gardens, stone walls, pathways, and avenues within the curtilage and attendant grounds of protected structures.									
Ensure that new development will not adversely impact on the setting of a protected structure or obscure established views of its principal elevations.									
Promote best practice and the use of skilled specialist practitioners in the conservation of, and any works to, protected structures. Architectural Heritage Impact Assessment reports should make reference to the DHLGH Advice Series on how best to repair and maintain historic buildings. The AHIA report should summarise the principal impacts on the character and special interest of the structure or site and describe how it is proposed to minimise these impacts. It may also describe how the works have been designed or specified to have regard to the character of the architectural heritage.									
Encourage high quality design in relation to planning applications that are made for the construction of extensions or new buildings affecting protected structures or older buildings of architectural merit not included in the RPS. The Council will have regard for the visual impacts on the setting and character of protected structures and/or buildings of architectural merit not included on the RPS, when considering applications on neighbouring sites.									
Favourably consider the change of use of any structure included on the Record of Protected Structures, where such a change of use does not adversely impact on its intrinsic character or special interest and where such a use may otherwise not conform to the zoning matrix associated with any Local Area Plan.									
Actively encourage uses that are compatible with the character of protected structures. In certain cases, the Planning Authority may relax site restrictions / development standards in order to secure the preservation and restoration of a protected structure or building of architectural merit that is not included on the RPS.									
Promote the use of energy upgrade materials and technologies that follow good conservation practice and are compatible with the character and vapour permeable construction of traditionally built structures.									
Promote the maintenance and appropriate re-use of buildings of architectural, cultural, historic and aesthetic merit which make a positive contribution to the character, appearance and quality of the streetscape or landscape and the sustainable development of the county. Any works associated with the re-use of such buildings should be carried out in accordance with best conservation practice.									
Encourage appropriate change of use and reuse of industrial buildings of heritage interest, provided such a change does not seriously impact on the intrinsic character of the structure and that all works are carried out in accordance with best conservation practice.									

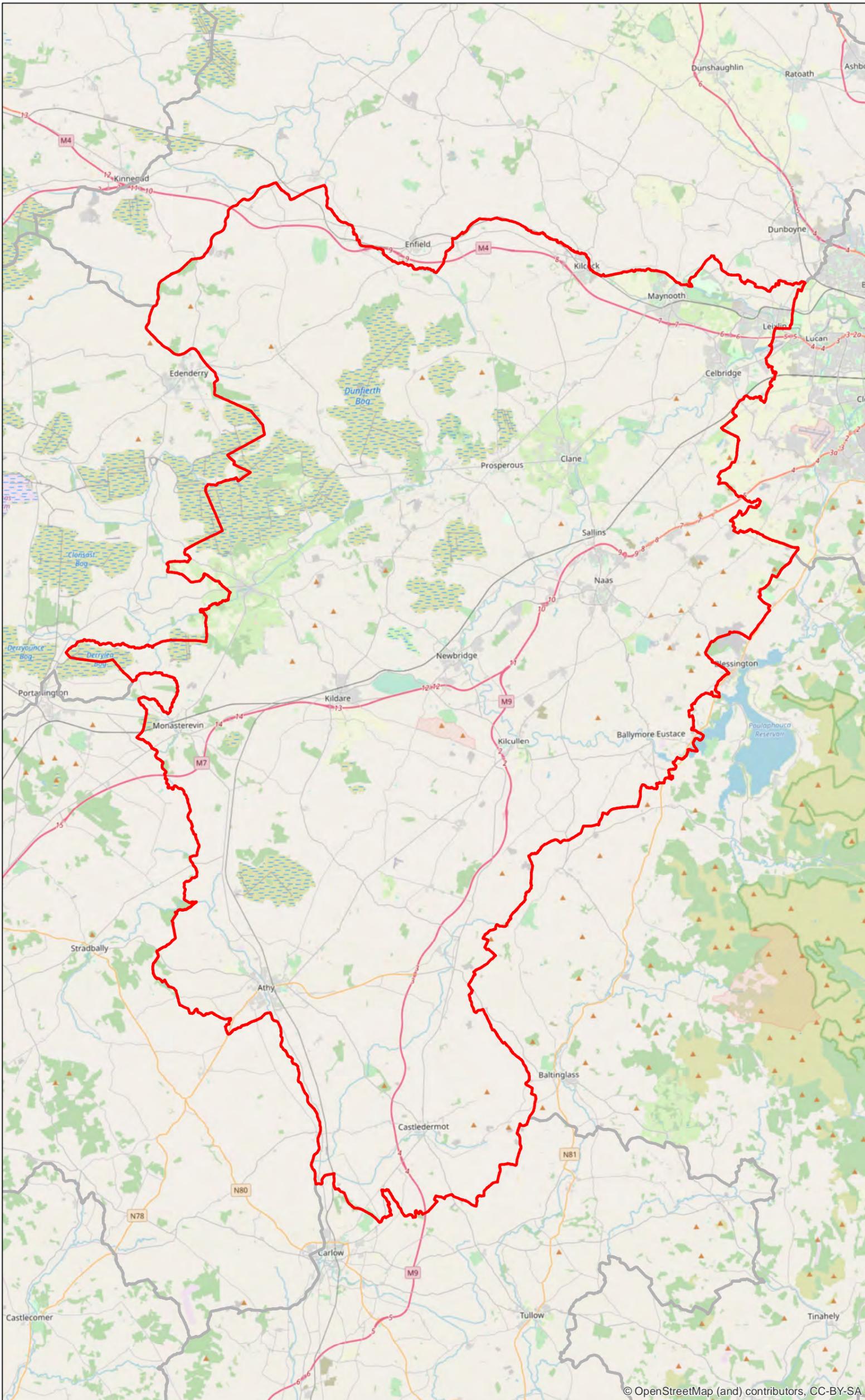
<p>The overall aim of the Council with regards Biodiversity and green infrastructure is to ‘contribute towards the protection, conservation and management of the County’s unique biodiversity including sites designated at national and EU level, protected species and habitats outside of designated sites and to promote the development of an integrated Green Infrastructure network in order to improve our resilience to climate change and to enable the role of Green Infrastructure in delivering sustainable communities.’</p> <p>This chapter sets out a range of measures for the protection , conservation and maintenance of biodiversity in the County.</p> <p>The measures are thus likely to result in an overall positive effect on biodiversity, water, land and soils, air quality and climate, heritage and the landscape. A positive effect on the population is identified as an extension. As outlined in the Chapter, biodiversity underpins important economic sectors such as agriculture and tourism and provides many other benefits (ecosystem services) free of charge which can be grouped into four main categories:</p> <ul style="list-style-type: none"> • provisioning services—the production of food, fibre, and water • regulating services—the control of climate and diseases • supporting services—nutrient cycling and crop pollination • cultural services—such as spiritual and recreational benefits. <p>No negative environmental effects are expected to occur through the implementation of the policies, objectives and actions outlined in this chapter.</p>	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 13- Landscape, Recreation and Amenity								
Protect and enhance the county’s landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape.								
Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of the proposed development in the landscape will be critical considerations.								
<p>Require a Landscape/Visual Impact Assessment to accompany proposals that are likely to significantly affect:</p> <ul style="list-style-type: none"> • Landscape Sensitivity Factors; • A Class 4 or 5 Sensitivity Landscape (i.e. within 500m of the boundary); • A route or view identified in Map 13.2 or Map 13.3 (i.e. within 500m of the site boundary). All Wind Farm development applications, irrespective of location, shall be required to be accompanied by a detailed Landscape/Visual Impact Assessment including a series of photomontages at locations to be agreed with 281 Planning Authority, including from scenic routes and views identified in Chapter 13. 549 Amend LRO16 to include Solar and Wind Farm in the list of higher-than-average structures that would adversely affect these high amenity areas. Cllr K Duffy Areas of High Amenity are identified 								
Require all Landscape and Visual Impact Assessments of specified linear infrastructure projects to be undertaken in line with the guidance on best practice methodology of the TII publication Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects (2020).								

<p>The overall aim of the Council with regards landscape, recreation and amenity is “to provide for the protection, management, and enhancement of the landscape of Kildare to ensure that development does not disproportionately impact on the unique landscape character areas, scenic routes or protected views; and to support the provision of high quality and accessible recreational facilities, amenities and open spaces for residents and visitors to the County, in recognition of the contribution of all forms of recreation to quality of life, personal health and wellbeing.”</p> <p>A large number of these objectives relate to the management and protection of the existing landscape and, as such, an overall positive effect on the landscape and visual setting of Kildare is identified.</p> <p>Uncertain environmental effects have been identified for the purposes of this assessment where objectives relate to the facilitation of appropriate development through the stipulation of certain landscape or visual conditions (e.g., LR 015). As the nature, extent and type of development is not known at the time of this assessment- it is not possible to determine potential for environmental effects.</p> <p>This Chapter sets out a policy and range of objectives relating to peatland tourism and recreational facilities. There is some potential for negative environmental effects with regards increased human interaction with peatland in the county, which can often carry national or European significance due to its unique biodiversity sensitivity. Any proposals for development on or near peatland should be designed in compliance with all relevant planning and environmental conditions and following detailed environmental assessments.</p> <p>Similarly, where policies or objectives relate to the development or promotion of new walking or cycling facilities in peatlands, or along canals in the county, an uncertain environmental effect is identified for the purposes of this assessment. This is because it is unclear what level of development, installations, vegetation clearance etc. would be associated with the same. Proposals for walking trails however are identified as having an overall neutral environmental effect for the purposes of this assessment, with the exception of a positive effect on the population, in that the type of walking trails proposed in this context are envisaged to be cross-country, undeveloped trails.</p> <p>Positive environmental effects are identified where policies or objectives relate to the protection and promotion of green space and green infrastructure, parks and biodiversity rich areas.</p>	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Chapter 14- Urban Design								
Apply the principles of people-centred urban design and healthy placemaking as an effective growth management tool to ensure the realisation of more sustainable, inclusive, and well-designed settlements resilient to the effects of climate change and adapted to meet the changing needs of growing and aging populations.								
Require a high standard of urban design to be integrated into the design and layout of all new development and ensure compliance with the principles of healthy placemaking by providing increased opportunities for physical activities, social interaction and active travel, through the development of compact, permeable neighbourhoods which feature high-quality pedestrian and cyclist connectivity, accessible to a range of local services and amenities.								
Ensure that town centres remain the focal point of their respective settlements by maintaining and enhancing their role as dynamic, attractive, resilient and inclusive environments, and as established destinations for commercial, retail, civic and recreational activities.								
Support and promote the ‘10-minute settlement’ concept across all towns and villages in the county and require that all Local Area Plans incorporate policies and objectives that will assist in its implementation.								

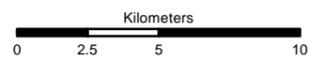
<p>Prepare a series of Masterplans / Urban Design Frameworks over the lifetime of the Plan, in cooperation with relevant stakeholders, including but not limited to the following areas:</p> <ul style="list-style-type: none"> • The Northwest Quadrant, Naas • The Canal Quarter, Naas • Lands at Confey, Leixlip • Dominican Lands, Athy • Lands at St. Raphael’s / Oakley Park, Celbridge • Lands at Simmonstown, Celbridge • Collinstown (Strategic Employment lands), Leixlip • Collegelands (lands to west of Maynooth, adjoining Maynooth University and St. Patrick’s College) 	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
<p>Prepare and implement on a phased basis Town Renewal Mastetplans Plans for the following settlements: Naas, Maynooth, Newbridge, Leixlip, Kildare Town, Celbridge, Monasterevin, Clane, Athgarvan, Castledermot, Derrinturn, Straffan, Allenwood, Coill Dubh (inc. Coolearagh), Johnstownbridge, Kilmeague, Ardclough and Robertstown (public amenities area).</p>	Green	Blue	Blue	Blue	Blue	Yellow	Green
<p>Continue to monitor on an ongoing basis the overall health of town centres as part of the Town Centre Health Check Exercise of the Town Renewal Masterplan process, and in the preparation of Local Area Plans, in order to establish a ‘live’ baseline dataset relating to land use activities and vacancies in town centres.</p>	Green	Blue	Blue	Blue	Blue	Blue	Blue
<p>Continue to tackle residential vacancy within town centres through various initiatives, including the following: - Targeted engagement with landowners.</p> <ul style="list-style-type: none"> - Promoting awareness of the Buy and Renew and Repair and Lease Schemes. - Developing tailored responses through selected Town Renewal Masterplans. - Applying for any funds made available under the Government’s Housing for All plan (2021) to increase residential living opportunities in vacant or underutilised buildings. - Land Activation Measures, including the use of the Derelict Sites Act, Section 59 mechanisms related to the Record of Protected Structures and Compulsory Purchase Powers. - The preparation of Town Centre First Plans by designated town teams. 	Green	Blue	Blue	Green	Blue	Green	Yellow
<p>Continue to pursue tactile urbanism initiatives by using the public realm within selected settlements as an experimental space to test new design concepts and alternative layouts.</p>	Green	Blue	Blue	Blue	Blue	Blue	Blue
<p>Comply with the provisions of the Guidelines for Planning Authorities on Urban Development and Building Heights (2018) by providing for the following;</p> <p>(a) Supporting increased building height and densities in appropriate locations, as outlined in Table 14.4, subject to the avoidance of undue impacts on the existing residential or visual amenities. (b) Utilising increased building heights to support mixed use development, including downsizing opportunities and residential units that facilitate an adaptable layout to suit longterm changes in home owner requirements</p> <p>(c) In mixed use schemes, development proposals shall include details of the sequencing of uses to enable the timely activation of supporting infrastructure and services. New development greater than 4 storeys will be required to address the development management criteria set out in section 3.2 of the Urban Development and Building Heights Guidelines (2018).</p>	Blue	Blue	Blue	Blue	Blue	Blue	Blue
<p>This Chapter is likely to result in an overall neutral environmental effect in that the policies and objectives relate largely to urban design requirements. Objectives relating to urban regeneration reflect the Councils commitment to compact growth. Increased densities, regeneration, renewal and the redevelopment of back land/brownfield sites is likely to result in a positive impact on population and human health through the provision of required housing and/or facilities. The promotion of compact growth and the renewal of towns and villages will likely have a positive impact on population and human health, as well as air quality and climate as it discourages urban sprawl, reduces traffic movements and encourages more sustainable transport methods.</p>							
<p>Chapter 16- Monitoring and Implementation</p>							

	Population and Human Health	Biodiversity	Land and Soil	Water	Air, Noise and Climate	Heritage	Landscape and Visual	Material Assets
Undertake an ongoing programme of monitoring and evaluation of the County Development Plan over its lifetime, as follows, and to align these monitoring protocols with each other as part of the overall monitoring and evaluation framework, of the Plan; i. Prepare an Annual Development Plan Monitoring Report in accordance with the Draft Development Plan Guidelines for Planning Authorities. ii. Prepare a 2-year Progress Report (as required under Section 15 (2) of the Act). iii. Prepare and submit a report to the Eastern and Midland Regional Assembly setting out the progress made in advancing objectives of the RSES (as required under Section 25A (1) of the Act, every two years, following the adoption of the Plan. iv. Prepare and publish a Baseline Report setting out the evidence basis for the review procedure of the Development Plan not later than four years after the adoption of the Plan, in accordance with the Draft Development Plan Guidelines for Planning Authorities. v. Undertake SEA Monitoring as detailed in the Environmental Report								
To require the preparation of an Infrastructure Assessment for all Local Area Plans to inform a phasing and infrastructure programme including physical, social, transport and economic Infrastructure to ensure key servicing and community infrastructure is delivered prior to or in tandem with development.								
Establish a 'live' GIS (recently updated) and supported database which shall contain information relating to planning and development in the County, including: • The provision of key indicators, as outlined in Section 10.3.2 of the Draft Development Guidelines, to assist in monitoring the implementation of the Core Strategy (to be updated on a quarterly basis). • The provision of data and mapping relating to town centre land uses (including vacancies and brownfield sites) for the twelve settlements in the county subject to local area plans.								
The objectives relating to monitoring are likely to result in an overall neutral environmental effect.								

Appendix A1



Legend
 Kildare County Boundary
 County Boundary



Irish Transverse Mercator
 EPSG: 2157

Client



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Issue	Date	By	Chkd	Appd
1	05/01/21	FG	LM	FG

Project Title
 Kildare County Development Plan
 2023-2029 Strategic Environmental
 Assessment

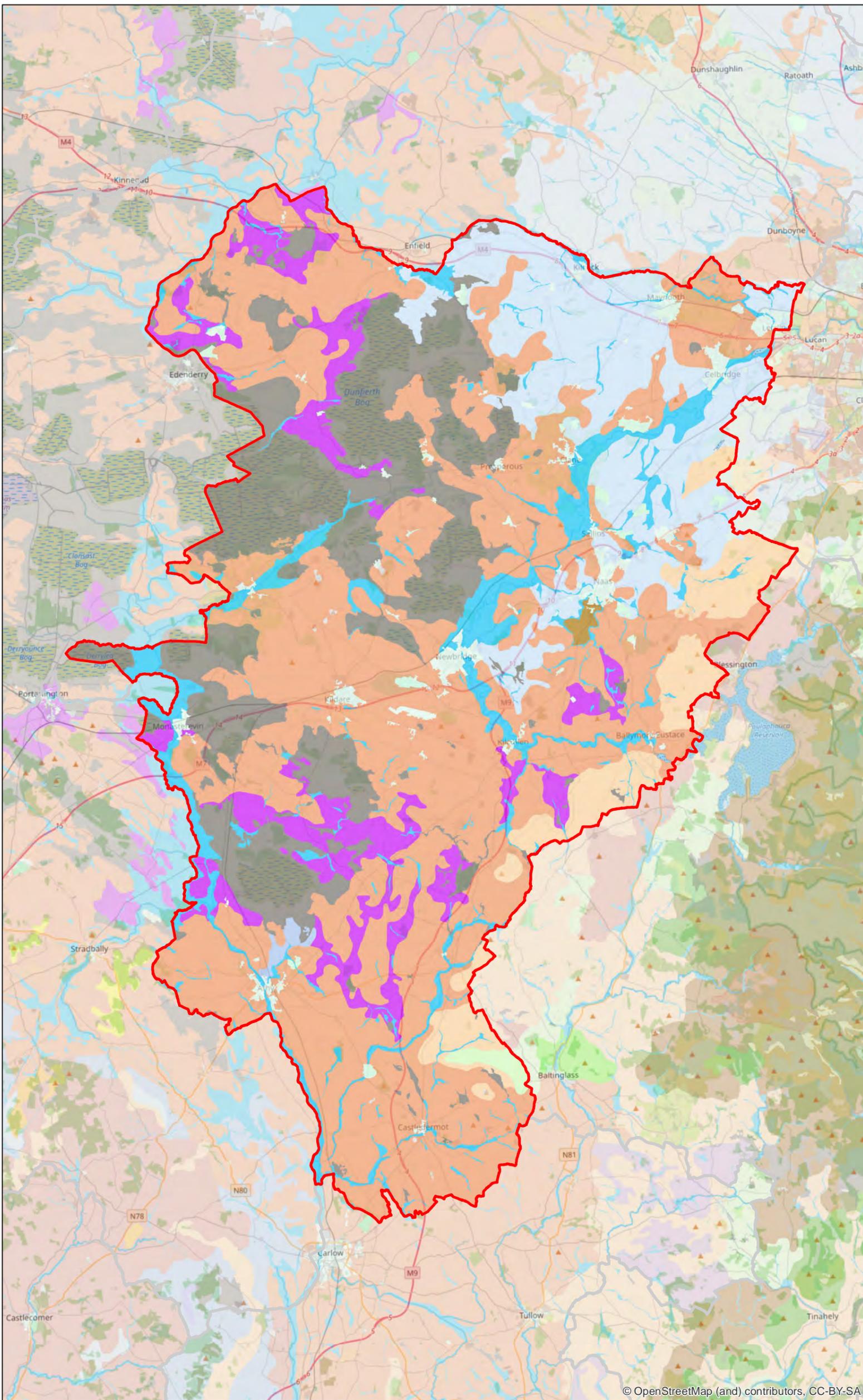
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Date
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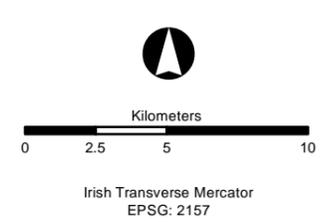
Drawing Title
 Kildare County Boundary/Study Area

Drawing Status
 Final

Figure No. Fig A1	Issue 1
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- Legend**
- Kildare County Boundary
 - County Boundary
- Association Unit & Name**
- 05LAK - Lake
 - 05RIV - River
 - 0650a - Mylerstown
 - 0700c - Drumkeeran
 - 0700d - Straffan
 - 0760c - Howardstown
 - 0843b - Knockastanna
 - 0900g - Cupidstownhill
 - 1000a - Elton
 - 1000c - Elton
 - 1000x - Elton
 - 1030a - Crosstown
 - 1100e - Ballylanders
 - 1100l - Kennycourt
 - 1150c - Faoldroim
 - 1xx - Peat
 - Rock
 - Urban
 - Water body



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1	05/01/21	FG	LM	FG

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 2023-2029 Strategic Environmental
 Assessment

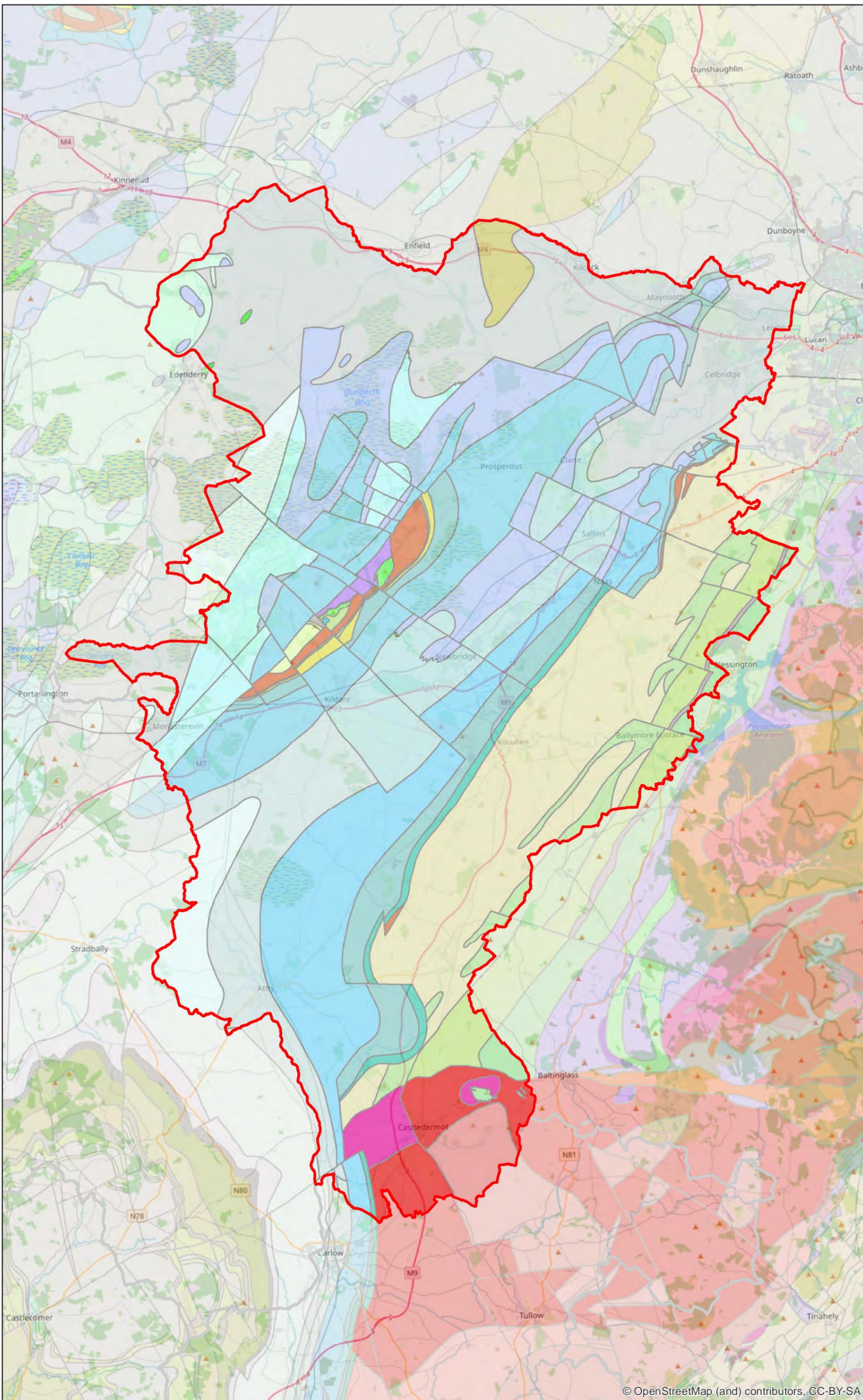
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Date
 05/03/22

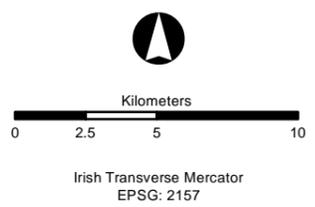
Drawing Title
 Soils

Drawing Status
 Final

Figure No. Fig A3	Issue 1
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- Legend**
- Kildare County Boundary
 - County Boundary
 - <all other values>
- NEWCODE**
- Allenwood Formation
 - Ballyadams Formation
 - Ballysteen Formation
 - in Ballysteen Formation
 - Ballymartin Formation
 - Boston Hill Formation
 - Cloghan Sandstone Formation
 - Edenderry Oolite Member
 - Feighcullen Formation
 - Ferbane Mudstone Formation
 - Lucan Formation
 - Milford Formation
 - in Milford Formation
 - Quinagh Formation
 - Rickardstown Formation
 - Tober Colleen Formation
 - Waulsortian Limestones
 - Namurian (undifferentiated)
 - Old Red Sandstone (undifferentiated)
 - Type 1 Granite
 - Tullow Type 2 Equigranular Granite
 - Tullow Type 2 Microcline Porphyritic Grani
 - Volcanics
 - Grange Cottage Formation
 - Kildare Limestone Formation
 - Allen Andesite Formation
 - Grange Hill Formation
 - Conlanstown Formation
 - Carrighill Formation
 - Dunmurry Formation
 - Glen Ding Formation
 - Guidenstown Formation
 - Pollaphuca Formation
 - Rahilla Formation
 - Slate Quarries Formation
 - Tipperkevin Formation



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1	05/01/21	FG	LM	FG

Project Title
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Scale
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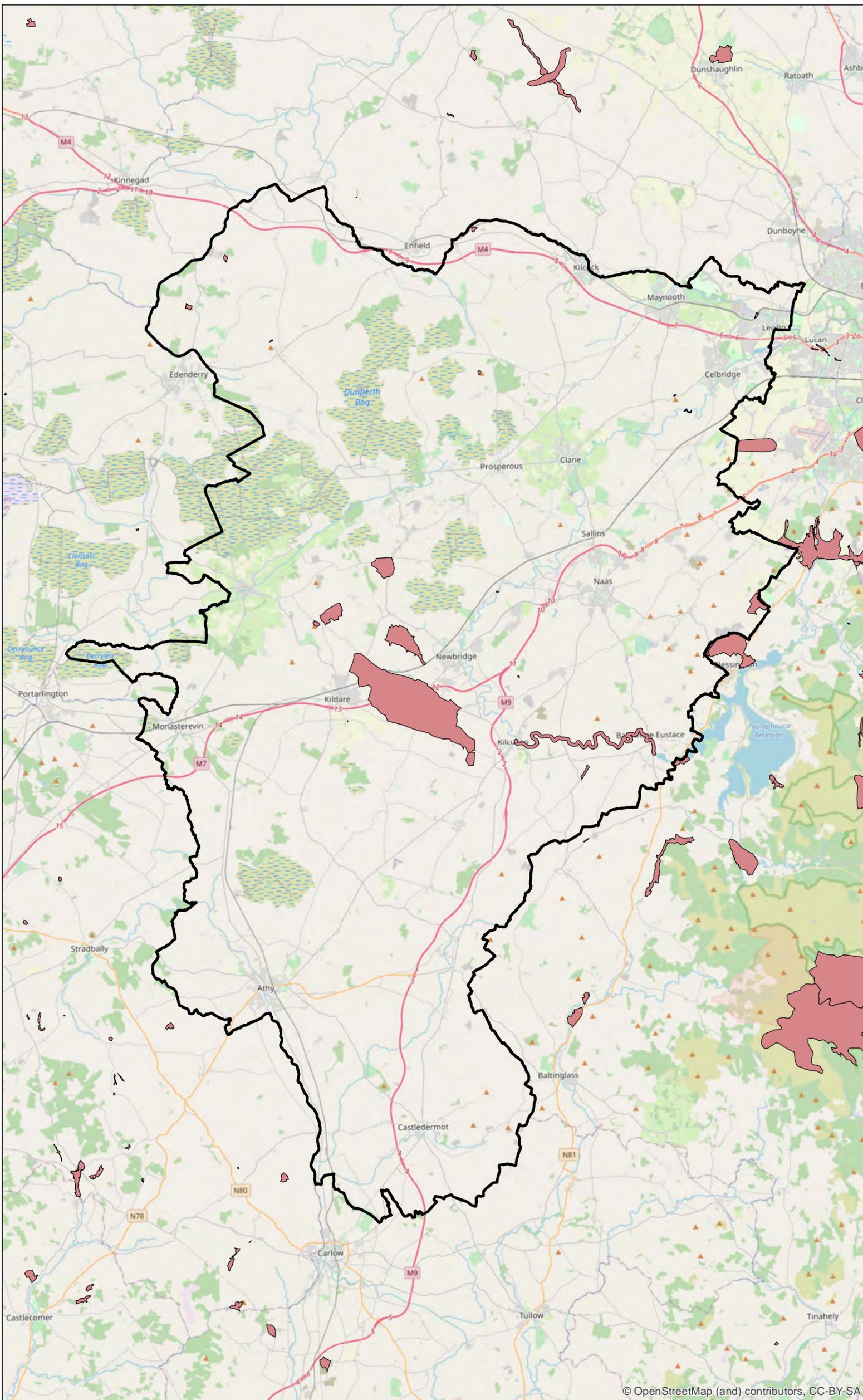
Date
 05/03/22

Drawing Title
 Bedrock Geology

Drawing Status
 Final

Figure No.
 Fig A4

Issue
 1



Legend

- Geoheritage Audited Sites
- Kildare County Boundary

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North Arrow

Kilometers
0 2.5 5 10

Irish Transverse Mercator
EPSG: 2157

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Scale
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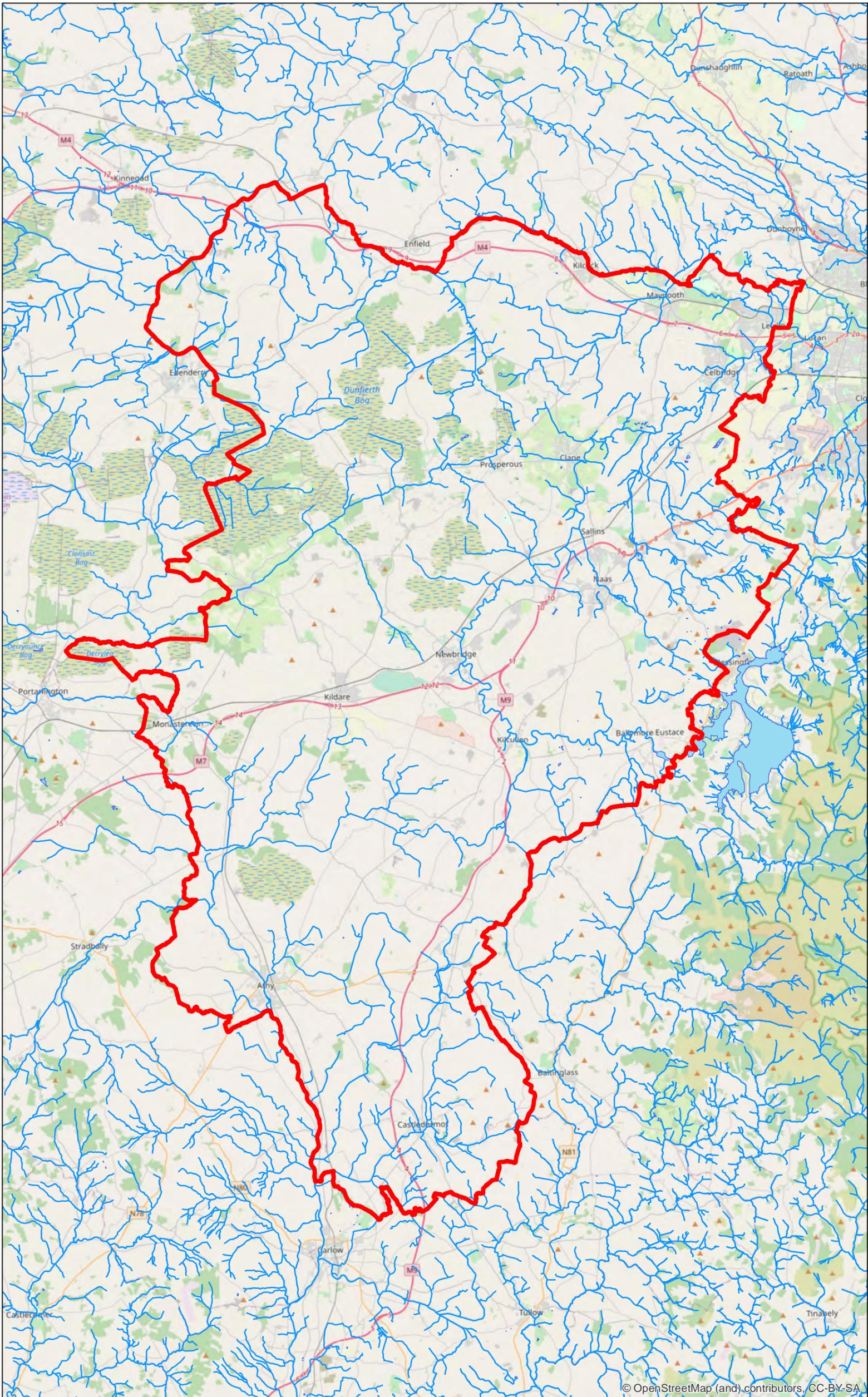
Date
05/03/22

Drawing Title
Geological Heritage Sites

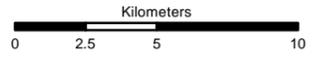
Drawing Status
Final

Figure No.
Fig A5

Issue
1



- Legend**
- Kildare County Boundary
 - River Network
 - Lakes



Irish Transverse Mercator
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Scale
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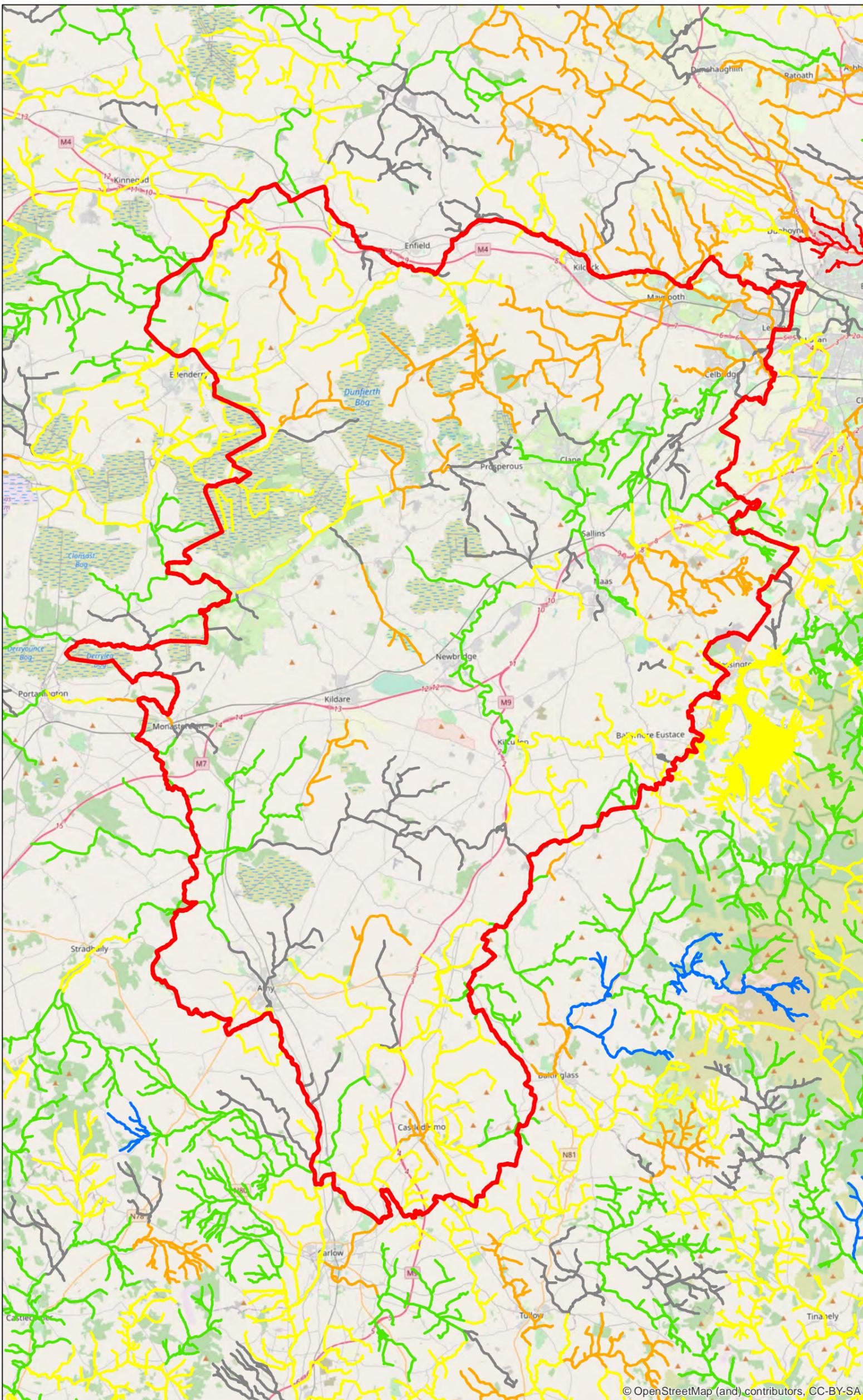
Date
 05/03/22

Drawing Title
 Surface Water Features

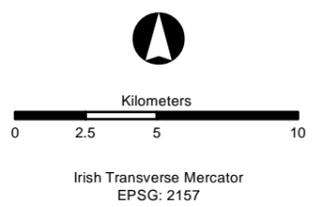
Drawing Status
 Final

Figure No.
 Fig A6

Issue
 1



- Legend**
- Kildare County Boundary
 - River Waterbody WFD Status 2010-2015**
 - High
 - Good
 - Moderate
 - Poor
 - Bad
 - Unassigned
 - Lake Waterbody WFD Status 2010-2015**
 - Moderate
 - Unassigned



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Scale				
1:250,000				
Date				
05/03/22				
1	05/01/21	FG	LM	FG
Issue	Date	By	Chkd	Appd

Project Title
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Scale
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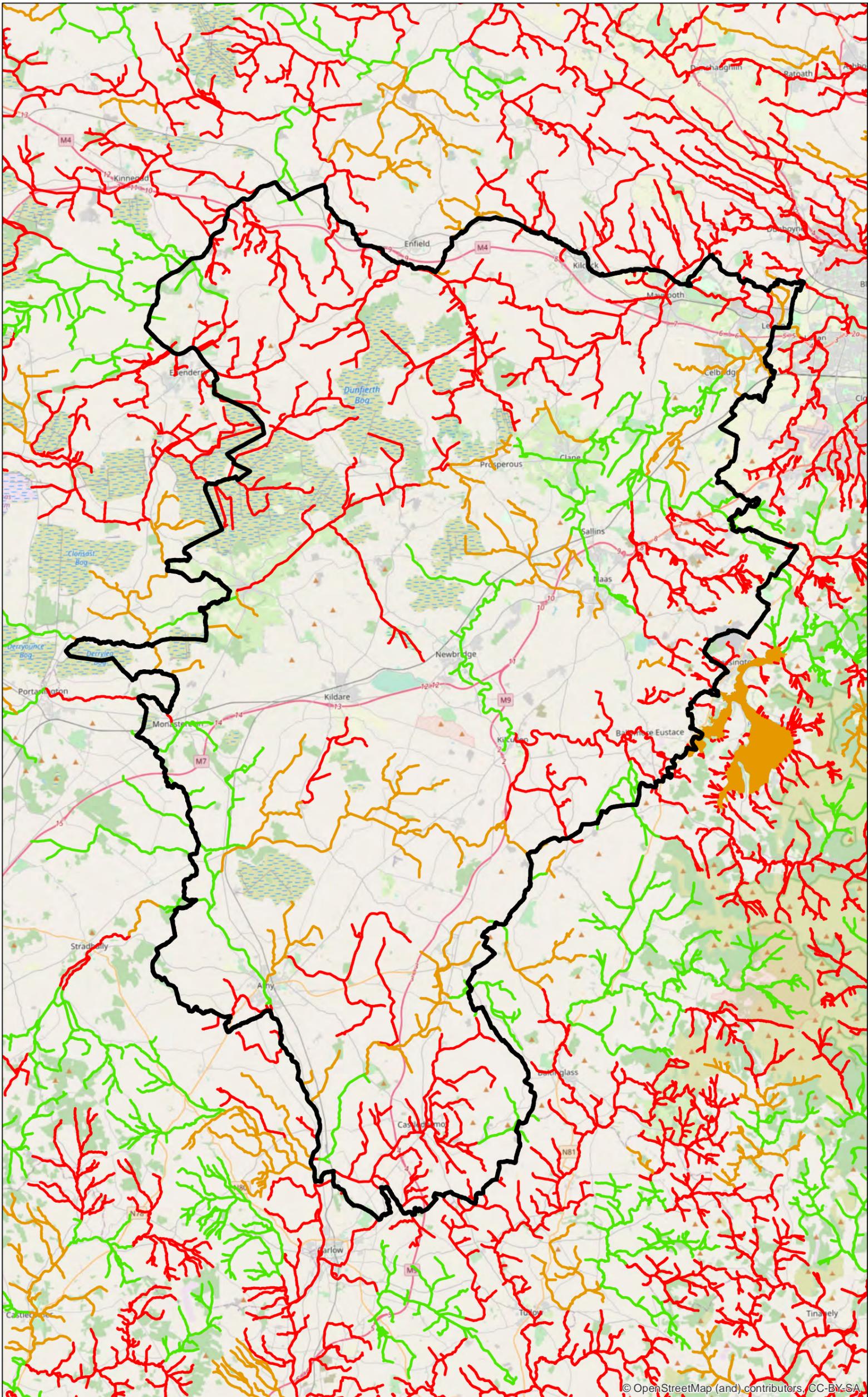
Date
05/03/22

Drawing Title
River Waterbody WFD Quality Status
2010-2015

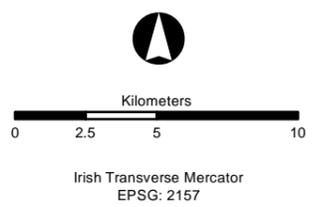
Drawing Status
05/01/21

Figure No.
Fig A7

Issue
1



- Legend**
- Kildare County Boundary
 - River Waterbodies (Risk)**
 - At risk
 - Not at risk
 - Review
 - Lake Waterbodies (Risk)**
 - At risk
 - Review



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Scale
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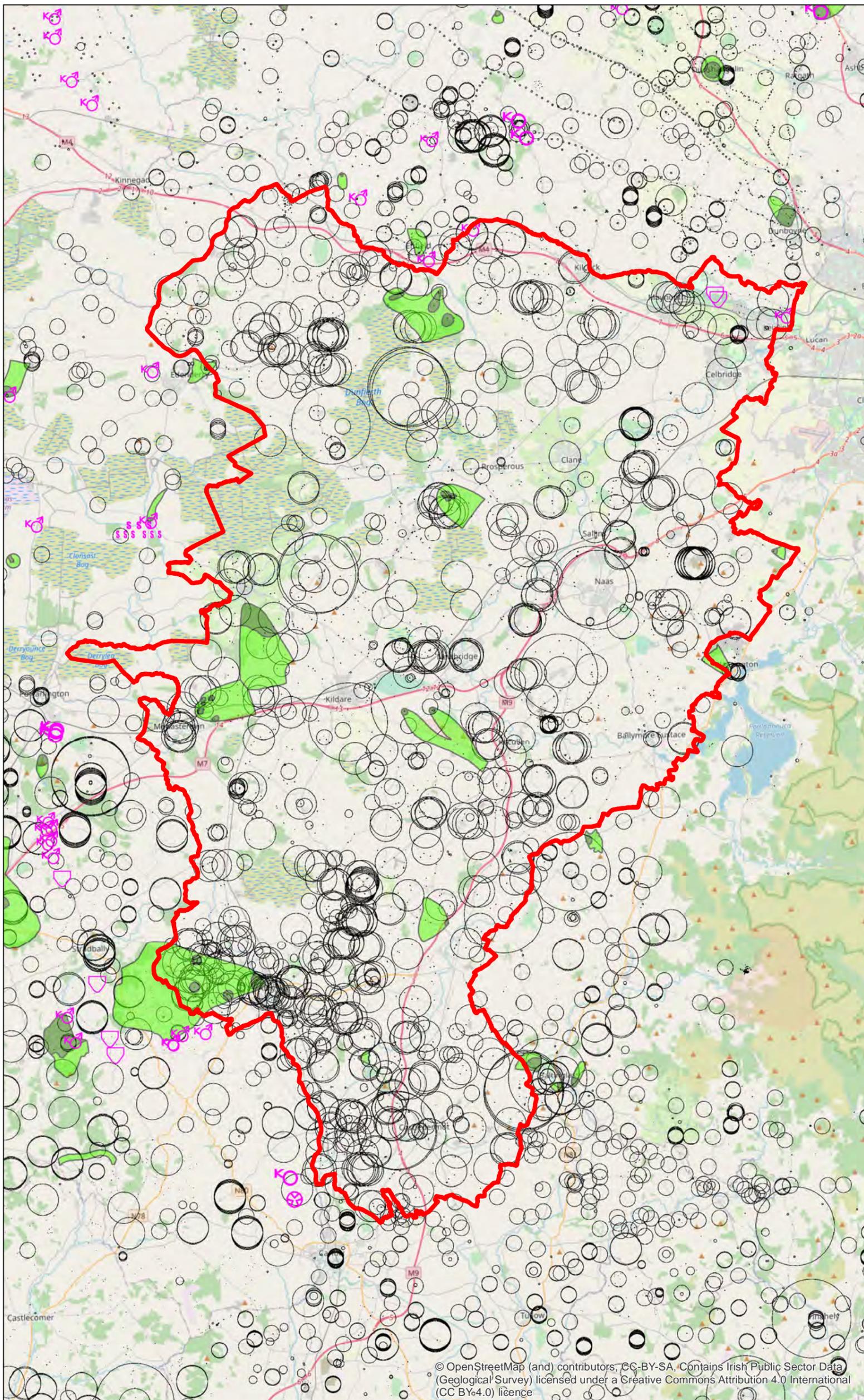
Date
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Drawing Title
 WFD Risk Status for Rivers

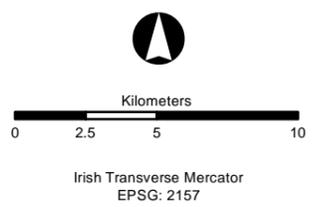
Drawing Status
 Final

Figure No.
 Fig A8

Issue
 1



- Legend**
- Kildare County Boundary
 - Borehole
 - Cave
 - Enclosed Depression
 - Spring
 - Superficial Solution Features
 - SI-Inner Protection Area
 - SO-Outer Protection Area
 - Groundwater Wells and Springs



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Scale
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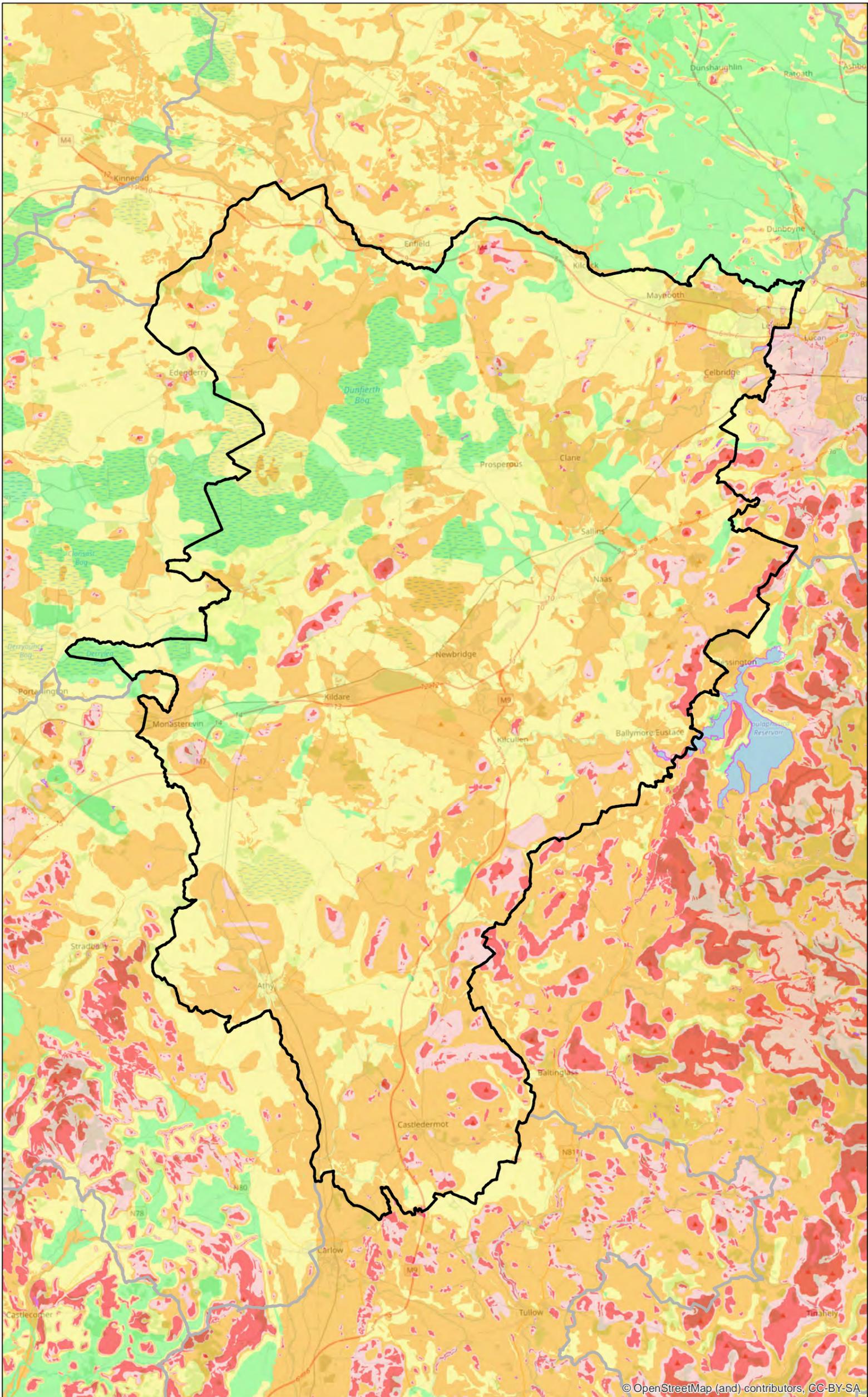
Date
05/03/22

Drawing Title
Groundwater Features and Public
Supply Source Protection Zones

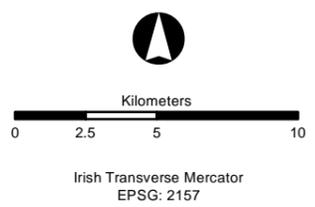
Drawing Status
Final

Figure No.
Fig A9

Issue
1



- Legend**
- Kildare County Boundary
 - County Boundary
 - Rock at or near Surface or Karst
 - Extreme
 - High
 - Moderate
 - Low
 - Water



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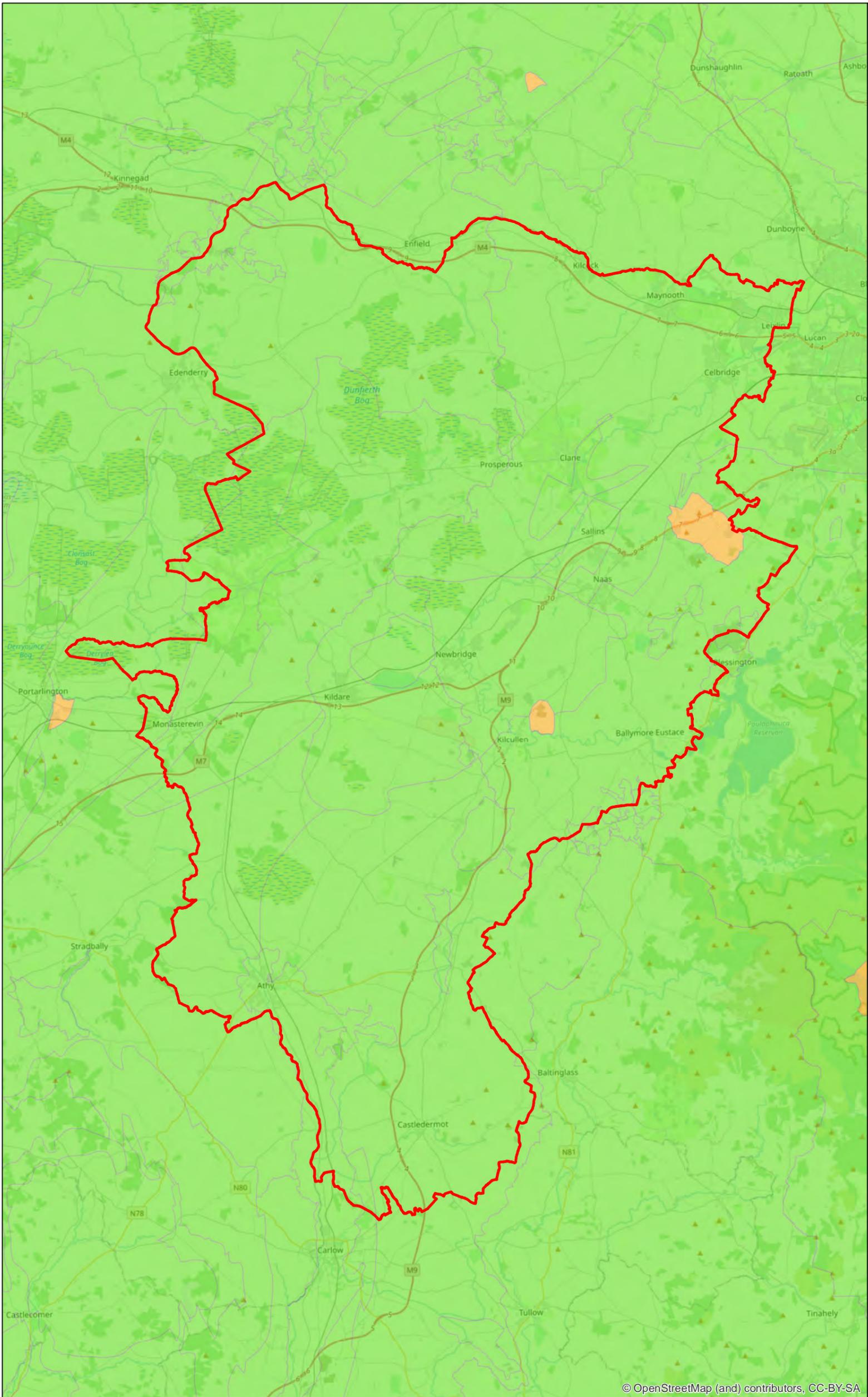
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Date
05/03/2022

Drawing Title
Groundwater Vulnerability

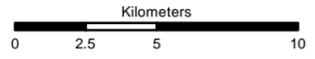
Drawing Status
Final

Figure No. Fig A10	Issue 1
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Legend

- Kildare County Boundary
- Ground Waterbody WFD Status 2010-2015**
- Good
- Poor (GW)


 Kilometers

 Irish Transverse Mercator
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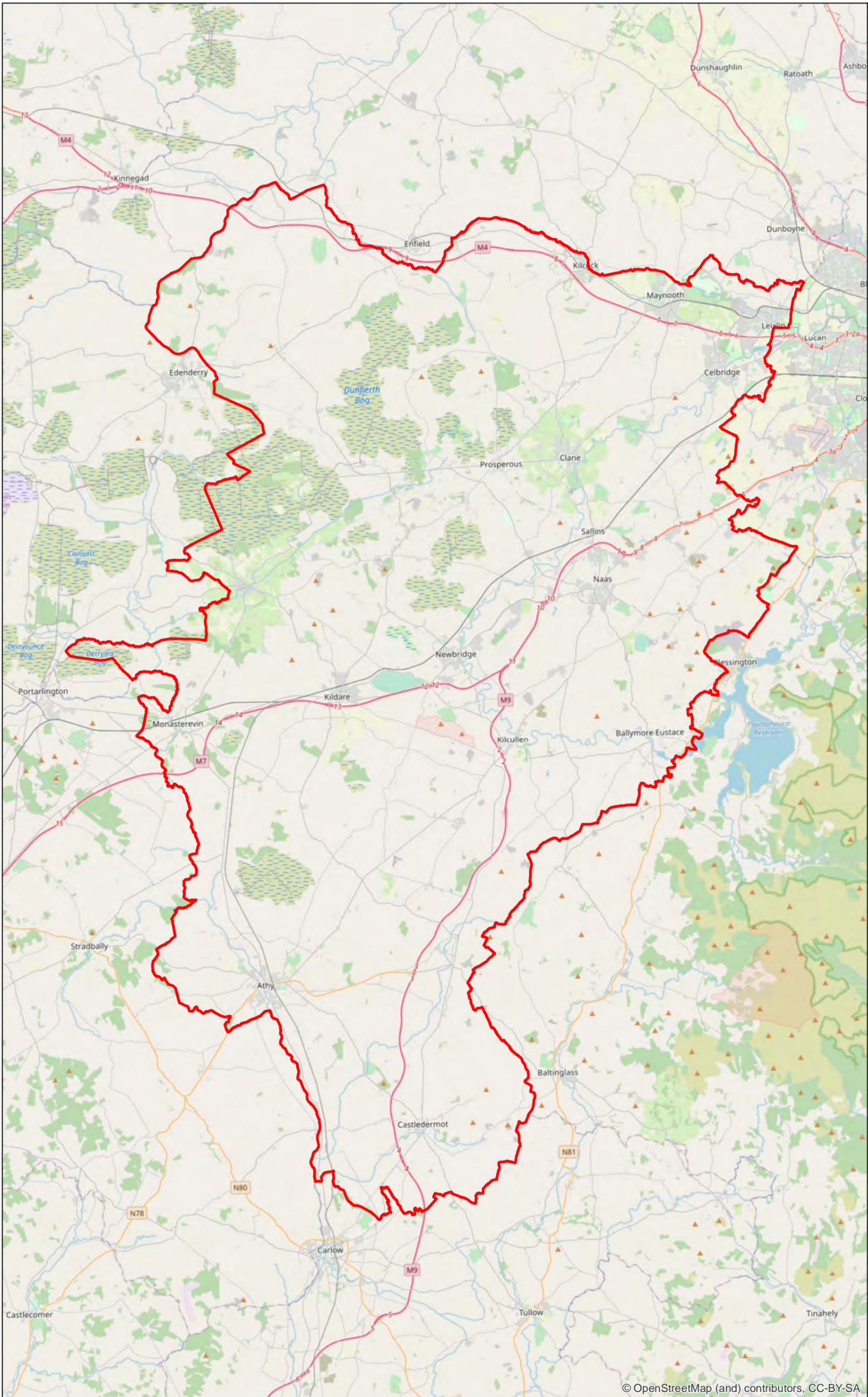
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Date
 05/03/2022

Drawing Title
 Groundwater WFD Quality Status
 2010-2015

Drawing Status
 Final

Figure No. Fig A11	Issue 1
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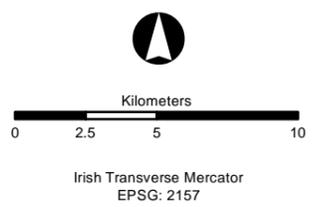


Legend

- Kildare County Boundary

Groundwaterbodies (Risk)

- At risk
- Not at risk
- Review



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Issue	Date	By	Chkd	Appd

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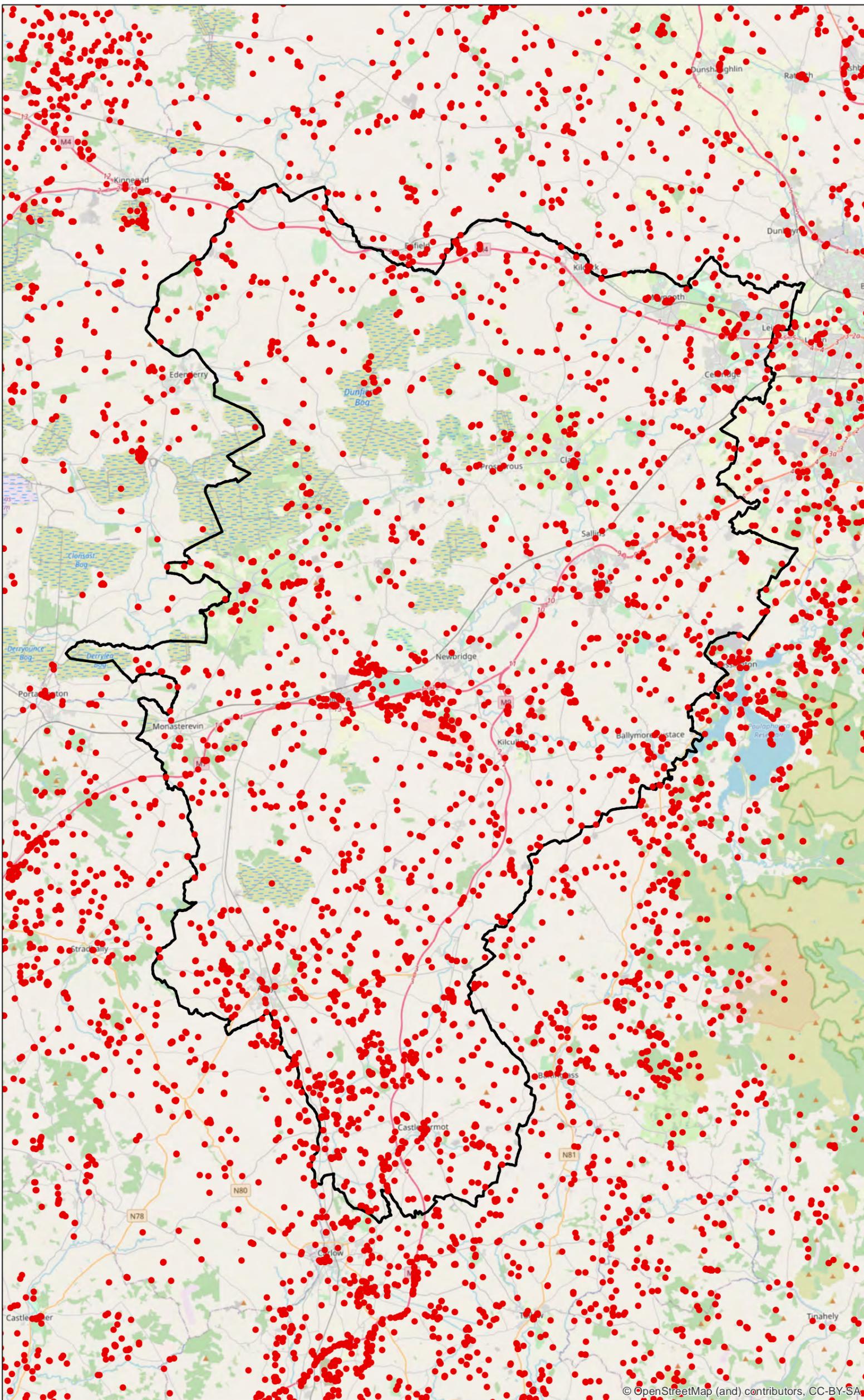
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Date
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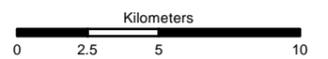
Drawing Title
 WFD Risk Status for Groundwater

Drawing Status
 Final

Figure No. Fig A12	Issue 1
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- Legend**
-  Kildare County Boundary
 -  Recorded Monuments



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Scale

1:250,000

Date

05/03/2022

Drawing Title

Recorded Monuments

Drawing Status

Final

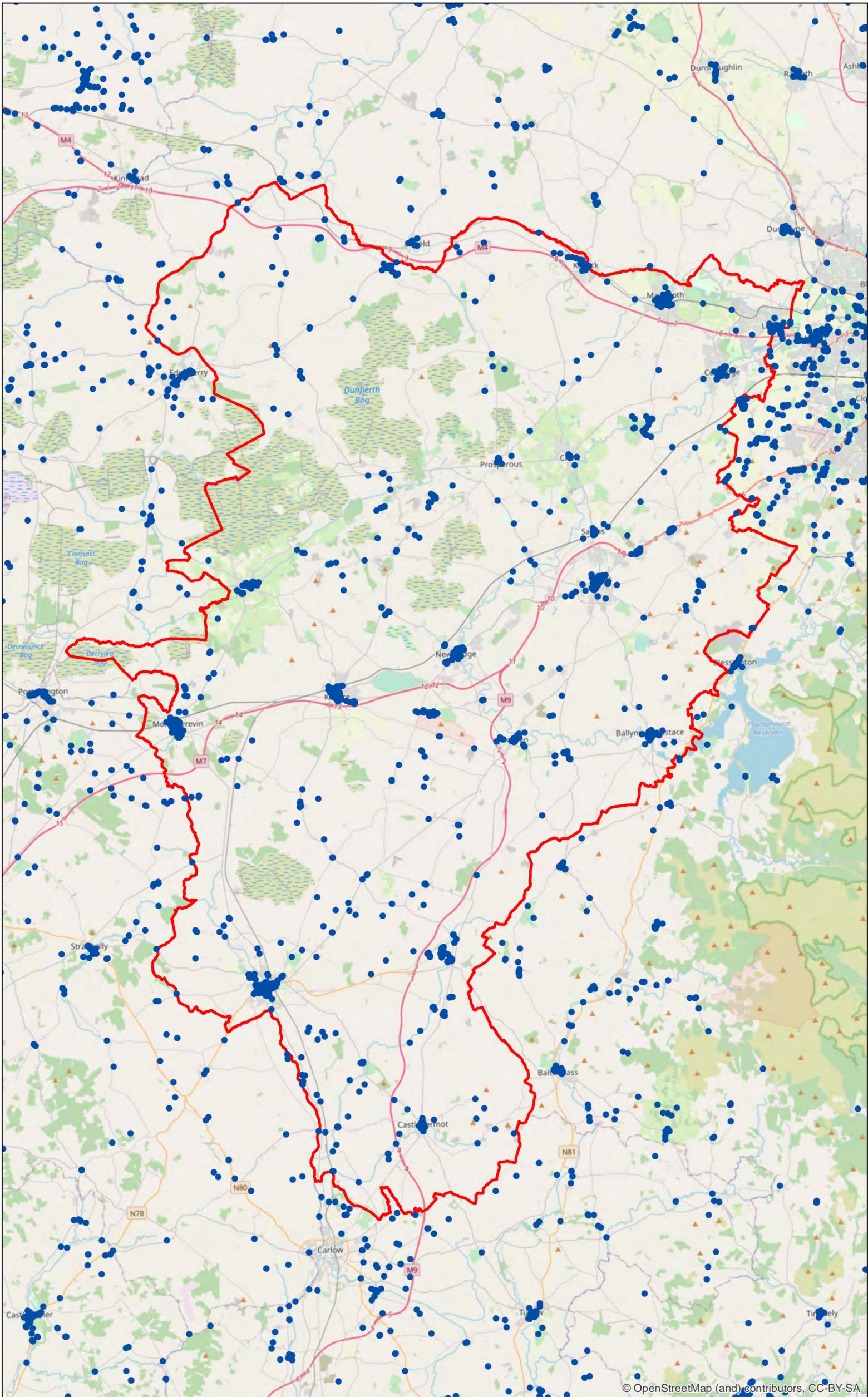
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Fig A13

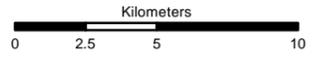
Issue

1

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- Legend**
- Kildare County Boundary
 - National Inventory of Architectural Heritage (NIAH)



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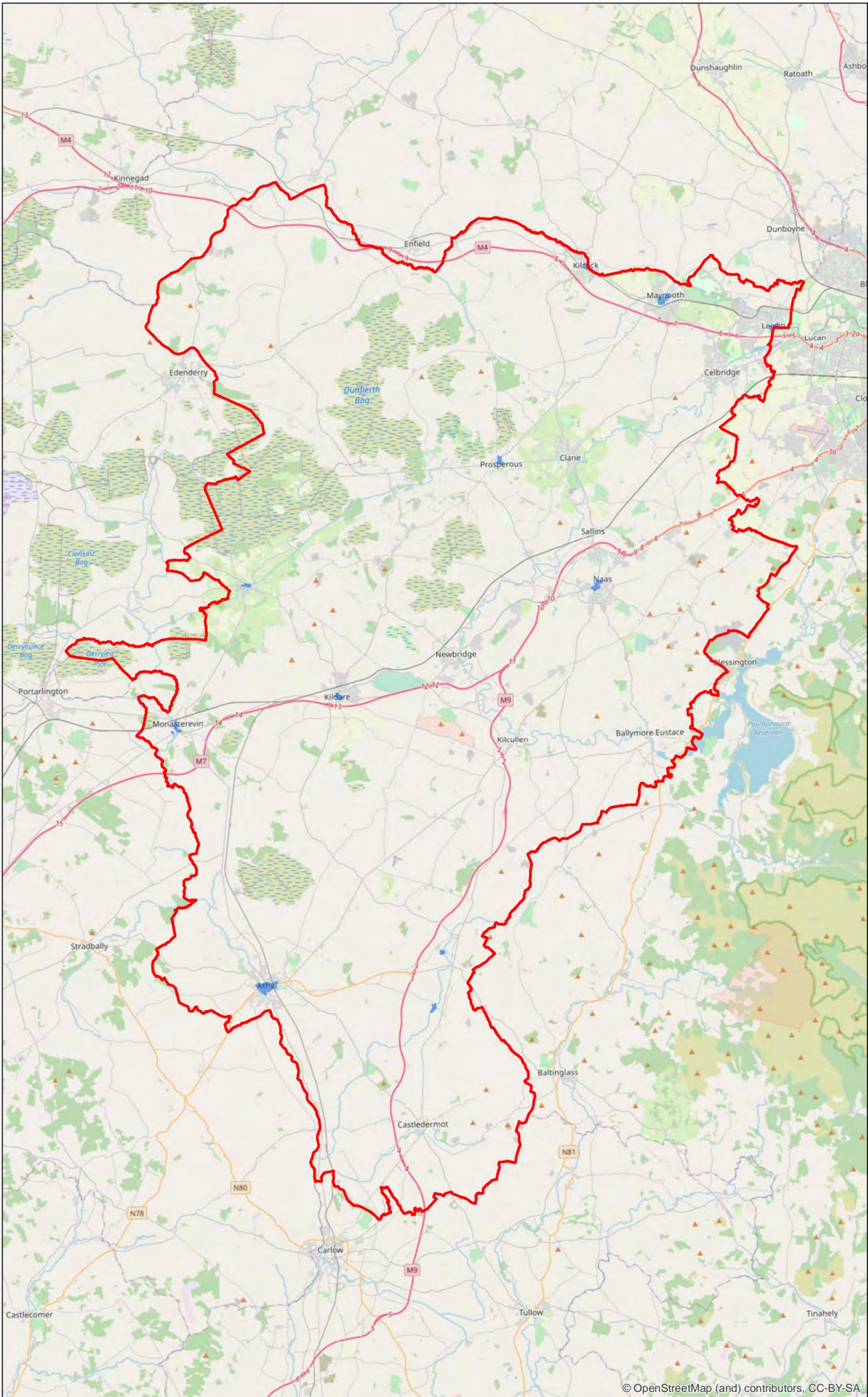
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Date
05/03/2022

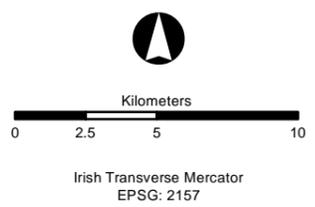
Drawing Title
National Inventory of Architectural
Heritage Sites

Drawing Status
Final

Figure No. Fig A14	Issue 1
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Legend
 Kildare County Boundary
 Architectural Conservation Area



Client



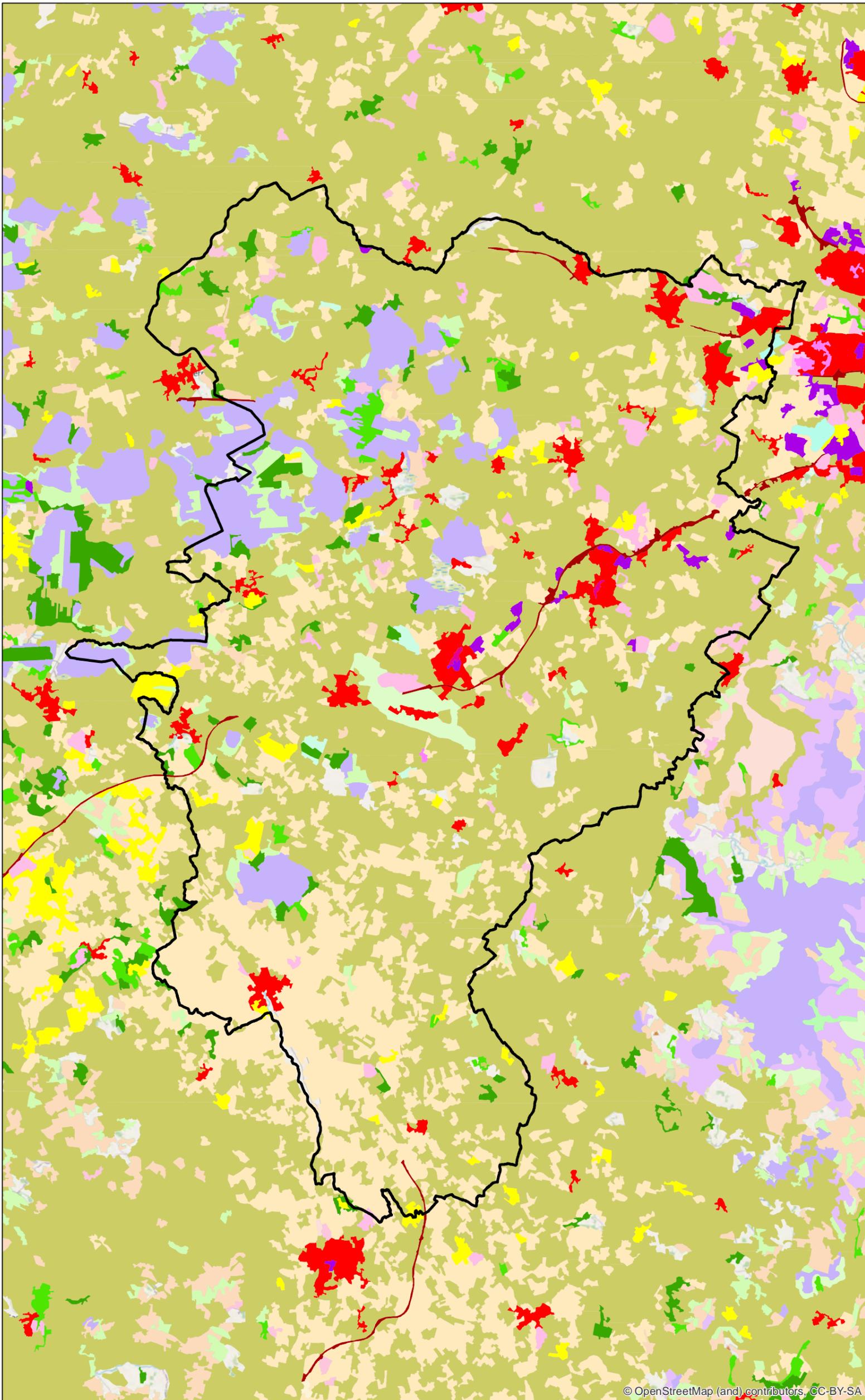
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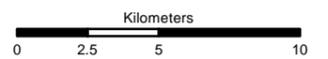
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 Assessment
 Scale
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 Date
 05/03/2022

Drawing Title
 Architectural Conservation Areas
 Drawing Status
 Final
 Figure No.
 Fig A15
 Issue
 1



- Legend**
- Kildare County Boundary
 - CORINE Landcover 2018**
 - 111, Continuous urban fabric
 - 112, Discontinuous urban fabric
 - 121, Industrial or commercial units
 - 122, Road and rail networks and associated land
 - 124, Airports
 - 131, Mineral extraction sites
 - 132, Dump sites
 - 133, Construction sites
 - 141, Green urban areas
 - 142, Sport and leisure facilities
 - 211, Non-irrigated arable land
 - 231, Pastures
 - 242, Complex cultivation patterns
 - 311, Broad-leaved forest
 - 312, Coniferous forest
 - 313, Mixed forest
 - 321, Natural grasslands
 - 322, Moors and heathland
 - 324, Transitional woodland-shrub
 - 333, Sparsely vegetated areas
 - 411, Inland marshes
 - 412, Peat bogs
 - 512, Water bodies



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Date

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Drawing Title

CORINE Landcover

Drawing Status

Final

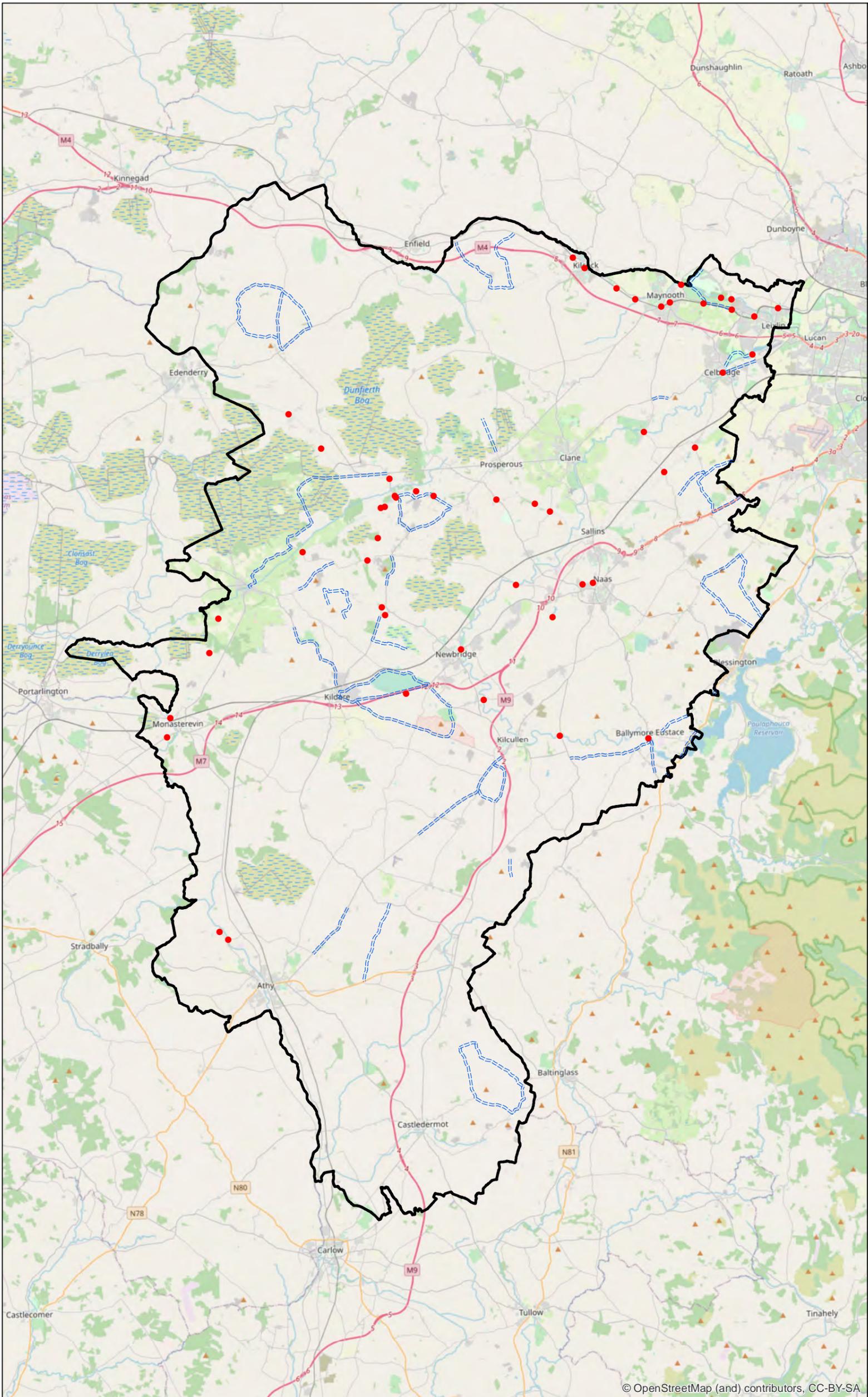
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Fig A16

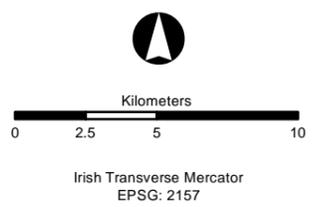
Issue

1

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- Legend**
- Kildare County Boundary
 - Scenic Viewpoints
 - Scenic Routes
- Views and prospects



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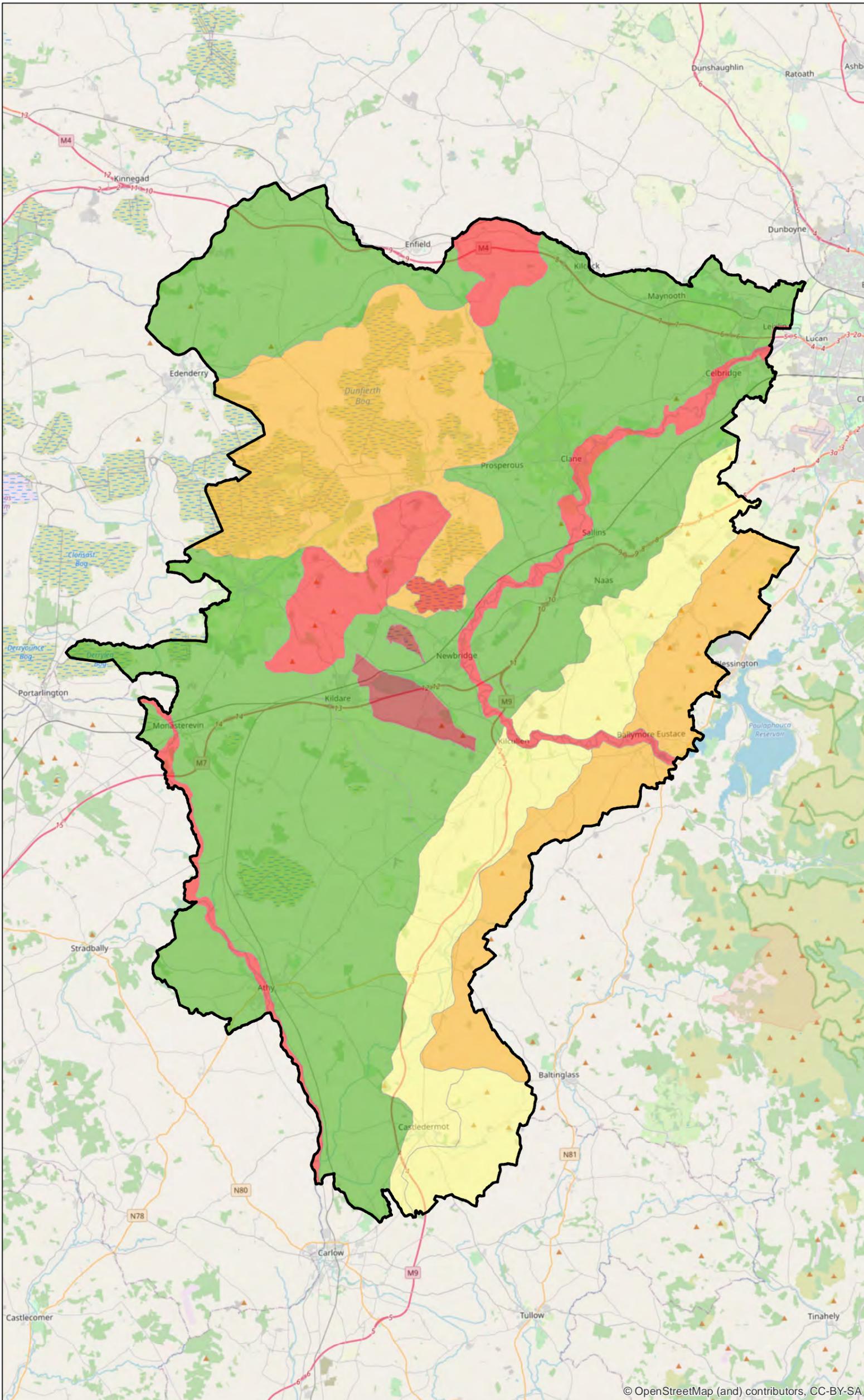
Date
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Drawing Title
 Views and prospects

Drawing Status
 Final

Figure No.
 Fig No A17

Issue
 1



Legend

Kildare County Boundary

Sensitivity

- Class 1 - Low Sensitivity
- Class 2 - Medium Sensitivity
- Class 3 - High Sensitivity
- Class 4 - Special Sensitivity
- Class 5 - Exceptional Sensitivity

Kilometers

0 2.5 5 10

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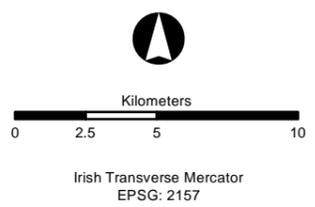
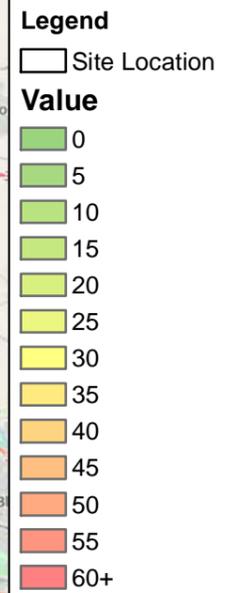
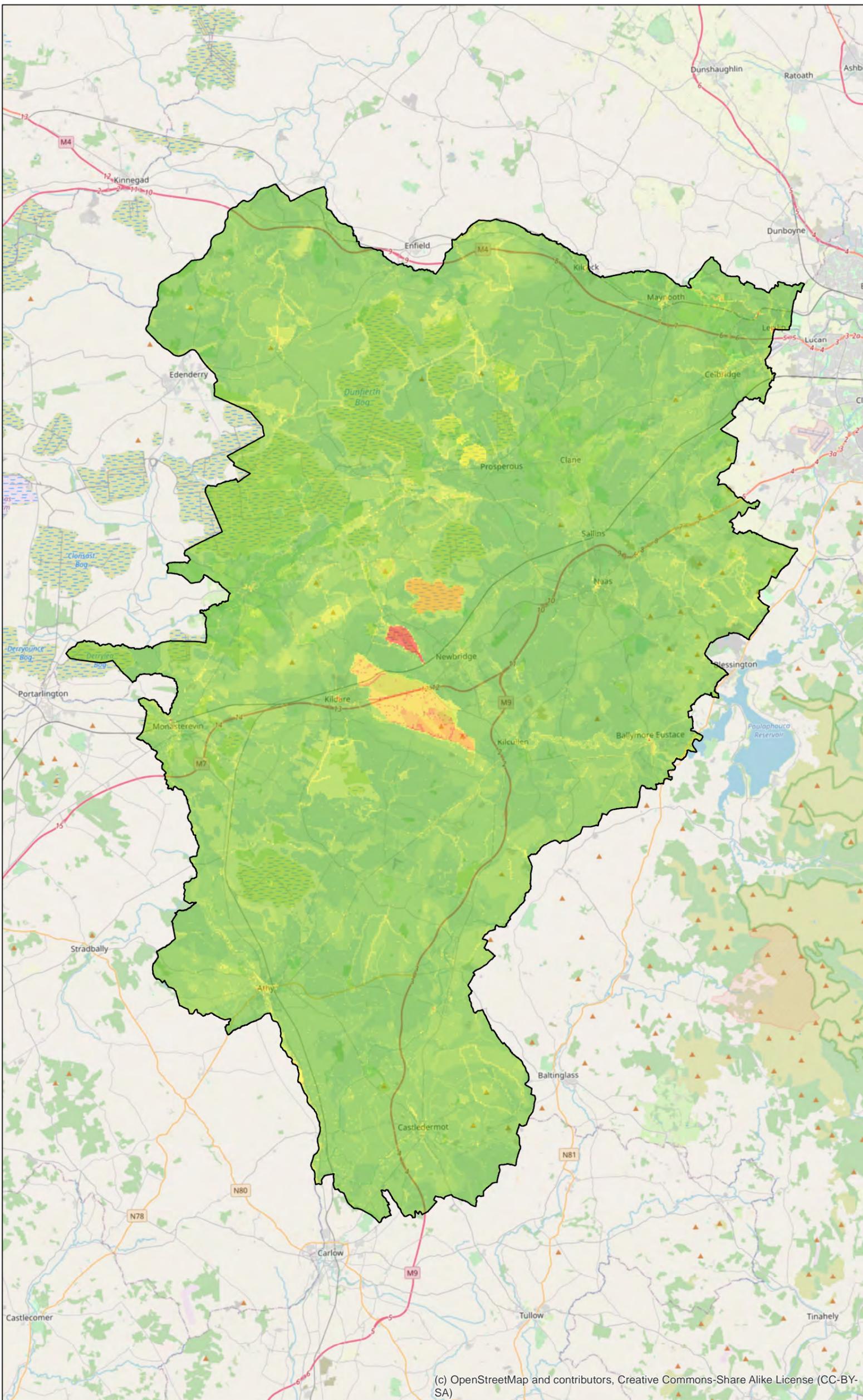
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Drawing Title
 Landscape Character Areas

Drawing Status
 Final

Figure No.
 Fig A18

Issue
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Date
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Drawing Title
Environmental Sensitivity Map

Drawing Status
Final

Figure No.
Fig A19

Issue
1