

LAOIS COUNTY COUNCIL

# Strategic Environmental Assessment Environmental Report Mountmellick Local Area Plan 2018-2024

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Prepared under SI 426/2004

**Minogue and Associates**

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Annex A: Assessment matrix

Annex B: Plans, Policies and Programmes



Laois County Council has prepared a Local Area Plan (LAP) for Mountmellick for the period 2018-2024. This is the Environmental Report for the Strategic Environmental Assessment (SEA) of the Draft LAP. The purpose of SEA is to formally and systematically evaluate the likely significant effects of implementing a plan or programme, in this instance the Mountmellick LAP. The report identifies the significant environmental effects of the plan on the environment and where significant effects are identified, recommends appropriate mitigation measures to avoid or reduce such effects. SEA is an iterative process and has informed and influenced the preparation of the LAP, particularly through avoiding areas of greatest environmental sensitivity.

## 1.2 Scale, nature and location of development

### Figure 1 Location of Mountmellick Town within County Laois



### 1.3 SEA Environmental Report

Regulations contained in Schedule 2B of Statutory Instrument (S.I.) 436 of 2004(as amended) details the information to be contained in an Environmental Report. The following Table 1lists the information required and details where this information is contained in this Environmental Report.

**Table 1 Information required to be contained in an Environmental Report.**

Schedule 2B of Statutory Instrument 436 of 2004	Addressed in this SEA ER
(a) an outline of the contents and main objectives of the plan and relationship with other relevant plans	Chapter One Introduction and Chapter Two Methodology outlines contents and main objectives; Chapter Three details the relationship with other relevant plans
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Chapter Four Baseline Environment provides this information
(c) the environmental characteristics of areas likely to be significantly affected	Chapter Four Baseline Environment provides this information
(d) any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or Habitats Directive	Chapter Four Baseline Environment provides this information
(e) the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation	Chapter Five: SEA Objectives provides this information
(f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors	Chapter Seven, Significant Effects on the Environment provides this information
(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan	Chapter Eight, Mitigation Measures provides this information
(h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack	Chapter Six, Alternatives Considered provides this information and difficulties encountered are listed at the end of Chapter Two, Baseline Environment.



Schedule 2B of Statutory Instrument 436 of 2004 of know-how) encountered in compiling the required information	Addressed in this SEA ER
(i) a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan	Chapter Nine, Monitoring provides this information
(j) a non-technical summary of the information provided under the above headings	This is provided as a separate document to this Environmental Report but is also available

#### **1.4 Report Preparation**

The SEA Team worked with the LCC Planning team and other specialists. The following consultants prepared this SEA ER:

- Ruth Minogue MCIEEM, AILI, (BSoc Sc) Social Anthropology, University of Manchester 1996, MA (Econ) Environment and Development, University of Manchester 1998, Dip Field Ecology, University College Cork 2003, ongoing CPD including certificate in Health Impact Assessment (2012) and diploma in Planning and Environmental Law (2017);
- Pat Doherty MCIEEM, MSc in Applied Environmental Science (Ecology), University College Dublin, 2003; BSc (Honours) in Environmental Earth Science, University of Wales, Aberystwyth, 2000; ongoing CDP including Habitat Assessment (NVC) and flora and fauna identification through IEEM;
- Dr Ronan Hennessey, Ph.D Earth & Ocean Sciences, NUI Galway, Higher Diploma in applied Remote Sensing and GIS, NUI Maynooth, B.Sc Earth Sciences, NUI Galway.
- Michael Cregan, Diploma in Landscape Architecture (Edinburgh University), B.Agr.Sc. (Forestry) (University College Dublin) and M.Agr.Sc (Urban Landscape Planning) (University College Dublin).

## 2.0 Methodology

### 2.1 Introduction

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

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

### 2.2 Stages in the SEA Process

The steps involved in SEA are as follows:

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

#### 2.2.1 Screening

The SEA Regulations state that SEA is mandatory for certain plans while screening for SEA is required for other plans that fall below the specified thresholds. SEA is mandatory for Local Area Plans where the population or target population exceeds 5,000 persons. As this is the case for the Mountmellick LAP area, the LAP progressed to the next stage of SEA – Scoping. An overview of this is provided below.

### 2.2.2 Scoping

The purpose of the SEA Scoping report is to identify the scope of the SEA and ensure that relevant data and environmental topics are included in the SEA. The Scoping report was issued to the statutory environmental authorities consultees on January 2018 for a four week period.

The table below summarises the main issues raised by consultees and the SEA response to same. Please note that pre-draft consultation was also undertaken by LCC and the list of issues identified through this process also informed the scope of the SEA.

**Table 2 Scoping Submissions received.**

Consultee	Key Issue Raised	SEA Response
Scientific Officer, SEA Section Office of Evidence and Assessment. Environmental Protection Agency, Regional Inspectorate, Inniscarra, County Cork		
	<b>Plan Area Boundary Map</b> There is merit in including a map showing the extent of the Plan area, particularly in the context of assessing and identifying relevant environmental sensitivities to be considered in the SEA.	Agreed, see Figure 1
	<b>Key Environmental Resources</b> We welcome in Section 3 Key Environmental Resources, that the EPA's Ireland's Environment 2016-an Assessment (EPA 2016), is a key environmental resource in informing the LAP process. The challenges and emerging issues described within this report should be integrated as appropriate in the Plan.	Noted
	<b>Water Framework Directive</b> The Plan should include a commitment to integrate the relevant recommendations of the Draft National River Basin Management Plan for Ireland 2018-2021 (DHPLG) and associated Programme of Measures which will be adopted during lifetime of the Plan. The Plan should also provide for the protection of high and good quality surface waters and groundwater resources and also protect relevant areas listed on the WFD Register of Protected Areas.	Noted, reference made in policies to same. Noted, this is provided in the LAP
	<b>Designated Sites</b> Among the conservation areas included in / within 15km of the Plan area are the River Barrow and River Nore (SAC) and the Slieve Bloom Mountains (SPA). The SEA should consider the potential effects occurring for all designated sites and protected species within and adjacent to the Plan area and associated ecological corridors. In particular consideration should be given to the potential for cumulative effects associated with existing, and proposed, development associated	Noted, these sites are described in Chapter 4 and potential cumulative effects are discussed in Chapter 7 of this SEA ER.

Consultee	Key Issue Raised	SEA Response
	with the Plan implementation. The SEA should consider the potential effects occurring for all designated sites and protected species within and adjacent to the Plan area and associated ecological corridors. In particular consideration should be given to the potential for cumulative effects associated with existing, and proposed, development associated with the Plan implementation.	
	<p><b>The protection of and possible enhancement of Undesignated Biodiversity</b></p> <p>Wider consideration of biodiversity outside of designated areas, such as ecological corridors/linkages, hedgerows and wetlands should be identified and measures put in place to ensure protection/replacement where appropriate.</p> <p>It may also be useful to consider reviewing and updating, as appropriate, existing habitat mapping to inform the development of the Plan area over the lifetime of the Plan. Where wetland sites are involved, consideration should be given to assessing the potential impact on water quality and the hydrological/ hydrogeological regime which maintains these sites.</p>	<p>Noted- consideration of these within the plan area are described in Chapter 4.</p> <p>Noted.</p>
	<p><b>Flood Risk Assessment and Management</b></p> <p>We note that the Plan area has a history of flood events. The Plan should reflect the need for flood risk to be taken into consideration for both existing and proposed new zoning, and associated development, within the Plan area. UoM14 CFRAMS should help inform appropriate zoning/re-zoning considerations within the Plan area. The Planning System and Flood Risk Management Guidelines for Planning Authorities (DAHLG 2009), should also be integrated, as appropriate.</p>	Noted, described in Chapter 4 and specific policies/objectives in Ch 7, and annex A, as well as land use zoning considerations.
	<p><b>Groundwater Vulnerability</b></p> <p>We note that Section 3 Material Assets identifies that the public water supply for Mountmellick is supplied by groundwater aquifers and that there are no aquifer protection zones within the LAP boundary. In this context, the Plan should include a commitment to the protection of groundwater resources and associated habitats and species.</p>	Noted, included in LAP
	<b>Provision of Adequate and Appropriate Critical</b>	Noted, Ch 4 and 7 of this SEA ER amends

Consultee	Key Issue Raised	SEA Response
	<p><b>Infrastructure</b></p> <p>We note the recognition in section 3.6 Material Assets in the Scoping Report that ‘high quality water supply and wastewater infrastructure is fundamental to ensuring the long-term physical, environmental, social and economic development of Mountmellick’. At the same time, the various drinking water upgrades proposed in the joint Portlaoise and Mountmellick Water Supply Scheme and outlined in the Scoping Report for the Portlaoise LAP 2018-2024, are not referenced in this Scoping Report. The Plan should clarify this and include a commitment to ensuring the provision of adequate and appropriate critical water infrastructure to cater for future sustainable development in the Plan area and to collaborate with Irish Water in seeking to resolve any critical water infrastructure issues which may arise</p>	<p>this.</p>
	<p><b>Climate Change Adaptation</b> The Plan should promote commitments for the development and promotion of appropriate climate change adaptation and mitigation measures that can be implemented through relevant land use plans and/or specific plans e.g. Flood Risk Management Plans etc. Climate change adaptation and mitigation measures should be included in the Plan as appropriate and the Plan should be consistent with the National Policy Position on Climate Action and Low Carbon Development the National Mitigation Plan and the National Adaptation Framework (when available), as well as relevant sectoral, regional and local adaption plans. The Agency has published SEA guidance on ‘Integrating Climate Change into SEA’ which may be useful in this regard. This guidance (and other SEA related guidance) is available at: <a href="http://www.epa.ie/pubs/advice/ea">http://www.epa.ie/pubs/advice/ea</a>.</p>	<p>Noted, a specific policy addresses this in the LAP.</p>
	<p><b>Core Strategy</b></p> <p>We note Table 3 Core Strategy in the Scoping Report. The Plan should ensure that it remains consistent with the National Planning Framework, when adopted, and promote the need for sustainable development. A commitment should also be made to remain consistent with the relevant Regional Spatial and Economic Strategy (RSES) upon adoption.</p>	<p>Noted. The Ethos of the NPF has informed the plan preparation. The LAP complies with the National Spatial Strategy and Regional Planning Guidelines currently in place. Policies relating to</p>

Consultee	Key Issue Raised	SEA Response
		Town Centre consolidation have been integrated to the LAP.
	<p><b>Brownfield Lands</b></p> <p>Where any brownfield lands are proposed for reuse / regeneration in the context of Plan development, these should be appropriately remediated to avoid or minimise any potential significant environmental impacts or human health impacts that may arise. A commitment should be given that any assessment of these sites should consider and provide information on aspects such as contaminated soil removal / remediation, noise and air quality, waste management, possible service infrastructure provision issues, possible presence of invasive species and ensuring appropriate management / control, implications for biodiversity etc.</p>	Noted, included as appropriate
	<p><b>Development arising from the Plan</b></p> <p>The Plan should include a specific commitment that any proposed residential, industrial, infrastructural or tourism related development arising from the Plan will take into account any other associated plans/programmes/strategies and the requirements of the SEA, Habitats, WFD and Floods Directives, as relevant and appropriate.</p>	Noted, this is included in the Key Plan objectives
	<p><b>Potential for Cumulative Effects</b></p> <p>In preparing the SEA, you should consider assessing the potential for cumulative effects on the environment as a result of implementing the Plan. A review of relevant adjacent Local Area Plans and relevant Plans/ Programmes and significant projects should also be undertaken and the potential for cumulative environmental effects considered.</p>	Noted, see Chapter 7 for assessment of cumulative effects.
	<p><b>Alternatives</b> In considering and assessing alternatives, the alternatives proposed should be reasonable and realistic and should be set at the appropriate strategic level at which the Plan will be implemented operating within the national planning hierarchy. They should be assessed against the relevant environmental objectives established for the key environmental aspects of the environment likely to be significantly affected. Clear justification should be provided for the selection of the preferred alternative/ combination of alternatives.</p>	Noted, and agreed. Chapter 6 Consideration of Alternatives addresses these comments.

Consultee	Key Issue Raised	SEA Response
	Where relevant, the development of alternatives should be clearly described. In addition, the methodology applied in the assessment of alternatives along with any assumptions made should be described. The Agency has published an EPA Guidance document Developing and Assessing Alternatives in Strategic Environmental Assessment - Good Practice Guidance (EPA, 2015), which should be considered.	
	<b>SEA Mitigation Measures</b> The Plan should include appropriate mitigation measures to address the potential for significant negative environmental effects, where these have been identified.	Noted, see Chapter 8 for mitigation measures
	<b>SEA Related Monitoring</b> In relation to monitoring related aspects required under the SEA Directive, the SEA should include information on the nature and frequency of monitoring to be carried out and organisations responsible for carrying out the monitoring. Linking SEA and Plan related monitoring will ensure that any unforeseen negative effects are identified early and appropriate mitigation measures provided.	Noted, please see Chapter 9 of this SEA ER.

### 2.3 Baseline Data

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

Baseline data was gathered for all parameters. Additional primary research included ecological surveys of public open space such as parks). Site visits were undertaken by the forward planners and SEA consultant in January 2018. Other data was gathered from the SEA ER of the Laois County Development Plan 2017-2023, Irish Water, the EPA, Met Eireann and other sources as appropriate. Footnotes throughout the document, particularly in Chapter Four present the reference and source.

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

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

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

#### **2.4 Consideration of alternatives**

The SEA assessed a number of alternative development scenarios during the plan preparation process. The three emerging scenarios were subject to a workshop that assessed each of the scenarios through posing key questions in relation to potential environmental effects associated with same. Further information is provided in Chapter Six, Consideration of Alternatives.

#### **2.5 Approach to assessment of significant environmental impacts**

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

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

The SEA, Habitats Directive Assessment process and LAP formulation is an iterative process and environmental considerations have informed all stages of the preparation of the plan, in order to avoid or minimise significant adverse environmental impacts. However, where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects.

In accordance with SEA guidelines the assessment identifies 'impact' under three headings.

- Quality of Impact
- Significance of Impact
- Duration of Impact.

This initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's objectives, policies and zonings have been assessed for their impact and where a neutral impact is noted no further discussion is provided within this report. In this manner, the ER focuses on the negative and positive impacts and proceeds to a commentary on their significance and duration. Thus it is a more robust, more focused approach to understanding the potential impacts associated with the Mountmellick LAP.

Secondly, where a potential impact is noted, either positive or negative, the significance of impact is addressed. Significance is assessed in terms of the type/scale of development envisaged by the plan and the sensitivity/importance of the receiving environment. Finally where it has been determined that elements of the LAP may potentially result in a negative impact on an environmental receptor appropriate level mitigation measures are proposed.



## **2.6 Mitigation**

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

The LAP has been prepared having regard to the environmental protection objectives contained within the Laois County Development Plan 2017-2023. However, some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter Eight details the mitigation measures necessary to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the LAP.

## **2.7 Monitoring**

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the LAP in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action. Chapter Nine presents the monitoring requirements for the plan, aligned where possible with those of the SEA of the Laois CDP 2017-2023.

## **2.8 Strategic Flood Risk Assessment**

The Planning System and Flood Risk Management Guidelines (DoEHLG 2009) provide a methodology to incorporate flood risk identification and management into land use strategies. It also requires the alignment and integration of flood risk into the SEA process. The core objectives of the Guidelines are to:

- Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic and social growth;
- Improve the understanding of flood risk among relevant stakeholders; and
- Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.

Potential flood issues in the plan area are an important consideration in the preparation of the LAP. Therefore the plan has been guided by the information on flood risk currently available and has been informed by the currently upto date flood risk information for Mountmellick including Catchment Flood Risk Assessment and Management (CFRAM) studies. These findings have been integrated into the LAP and this SEA ER (See Chapters Four and Seven in particular).

## **2.9 Data Gaps**

Data gaps are present in terms of human health and population; however the Census 2016 Small Area Population statistics will address some of these data gaps.

### **3.0 Relationships to Plans, Policies and Programmes.**

#### **3.1 Introduction**

Under the SEA Directive, the relationship between the LAP and other relevant plans and programmes must be taken into account. A review of the relevant plans and programmes can be found in Appendix A.

The LAP must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the plan will operate. The Laois County Development Plan 2017-2023 (LCDP 2017-2023) operates as the primary land use framework for the County. The LAP has been prepared having regard to the policies and objectives outlined within the above LCDP 2017-2023. The key environmental protective objectives and policies of the LAP are consistent with the County Development Plan.

A list of the key relevant international, national, regional and county policies included in the review are provided below in Section 3.2; Section 3.3 identifies key principles that have informed the SEA process arising from this review.

### **3.2 Relevant Plans, Policies and Programmes**

#### **3.2.1 International**

- UN Convention of Biological Diversity, 1992
- The Convention on Wetlands of International Importance (The Ramsar Convention) 1971 and subsequent amendments
- EU Environmental Action Programme to 2020
- EU Biodiversity Strategy to 2020
- EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979. Known as the Birds Directive
- EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992 known as the Habitats Directive
- European Communities (Birds and Natural Habitats) Regulations 2011
- EU Green Infrastructure Strategy 2013
- The Stockholm Convention 2001
- EU Soil Thematic Strategy
- Water Framework Directive (2000/60/EC) as amended
- Floods Directive (2007/60/EC)
- The Drinking Water Directive (DWD), (98/83/EC) 1998
- Groundwater Directive, (2006/118/EC) 2006
- EC Bathing Water Quality Directive, (2006/7/EC) 2006
- Paris (Climate Change) Agreement
- Kyoto Protocol
- The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive
- EU Directive on Waste, (2006/12/EC), 2006
- EU Directive on Waste (2008/98/EC), 2008
- EU Urban Waste Water Treatment Directive (91/271/EEC), 1991
- Directive 2009/28/EC on the promotion of the use of energy from renewable sources

- European Convention on the Protection of the Archaeological Heritage, 1992 (The Valletta Convention)
- Convention for the Protection of the Architectural Heritage of Europe, 1985 (Granada Convention)
- The European Landscape Convention 2000
- The Aarhus Convention
- Environmental Liability Directive 2004/35/EC
- SEA Directive - Assessment of the effects of certain plans and programmes on the Environment, (2001/42/EC) 2001
- Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985 and Environmental Impact Assessment Directive (2014/52/EC)

### **3.2.2 National**

- National Planning Framework (2018)
- The National Spatial Strategy 2002 -2020
- 3<sup>rd</sup> National Biodiversity Action Plan, 2017-2021
- The Wildlife Acts 1976 to 2012 National Mitigation Plan (in preparation)
- Sectoral Climate Adaptation Plans (in preparation)
- Local Authority Adaptation Strategy Development Guidelines, EPA 2016
- Sectoral Climate Adaptation Plans (in preparation)
- Our Sustainable Future A framework for sustainable development in Ireland (2012)
- National Landscape Strategy (2015-2025)
- National Heritage Plan (2002)
- Water Framework Directive River Basin Management Plans (2nd cycle in preparation)
- Irish Water's Capital Investment Programme
- Water Services Act (2007)
- Water Services (Amendment) Act (2012)
- Irish Water Services Strategic Plan SEA and AA (2015)
- Irish Water Capital Investment Programme (2017-2021)
- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009)
- Geological Heritage Sites Designation (under the Wildlife Amendment Act 2000)
- Waterways Ireland Heritage Plan 2014-2020
- The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009
- National Climate Change Strategy (2007-2012)
- Review of Ireland's climate change policy and Climate Action and Low Carbon Bill 2013
- Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020
- National Monuments Act 1930 with subsequent amendments
- Architectural Heritage Protection - Guidelines for Planning Authorities (2011)
- National Inventory of Architectural Heritage (NIAH)
- Draft Landscape and Landscape Assessment Guidelines, (2000)
- Planning and Development Act 2000 (as amended).

- Planning Policy Statement, 2015

### 3.2.3 Regional and County

- Regional Planning Guidelines 2010-2020- to be replaced by Regional Spatial and Economic Strategies
- Eastern Catchment and Flood Risk Assessment and Management Plan (draft)
- Eastern River Basin District Management Plan (second cycle in preparation)
- Eastern-Midlands Regional Waste Management Plan 2015
- Laois County Development Plan 2017-2023
- Laois Local Economic and Community Plan 2016
- Laois County Heritage Plan 2014-2019

### 3.3 Key principles identified from review.

Following the review of the relationship between the above plans, policies and programmes (see also Appendix A), the following key principles have been identified and this have been considered through the SEA and helped to inform the LAP development.

**Table 3 Key Principles from review**

SEA Topic	Principles/Implications for the LAP and SEA	EPA State of Irelands Environment 2016 Key Issues
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> <li>• Conserve and enhance biodiversity at all levels</li> <li>• Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, recognising ecological connectivity where possible</li> <li>• Facilitate species and habitat adaption to climate change</li> <li>• Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity</li> <li>• Ensure careful consideration of non-native invasive and alien species issues</li> </ul>	Implementation of legislation Climate change Environment and health and well being Nature and wild places
Population and Human Health	<ul style="list-style-type: none"> <li>• Provide for sustainable communities with key services</li> <li>• A high quality environment to live, work and play in</li> <li>• Avoid pollution and environmental health impacts (noise and air quality) through mitigation and design</li> </ul>	Environment and health and well being Implementation of legislation Climate change Community engagement Sustainable economic activities
Water	<ul style="list-style-type: none"> <li>• Maintain and improve water quality</li> <li>• Avoid and minimise effects on natural processes, particularly natural flood management and catchment processes through sensitive design and</li> </ul>	Restore and protect water quality Implementation of legislation Climate change Environment and health and

SEA Topic	Principles/Implications for the LAP and SEA	EPA State of Irelands Environment 2016 Key Issues
	<ul style="list-style-type: none"> <li>consultation</li> <li>Adapt and improve resilience to the effects of climate change, particularly flood risks associated with extreme weather</li> <li>Minimise water consumption/ abstractions</li> <li>Design SUDS to facilitate ecological improvement/ enhancement where possible</li> </ul>	well being
Soil and Geology	<ul style="list-style-type: none"> <li>Conserve soil resources where possible and avoid waste of soil resources</li> <li>Maintain productive capacity and prevent erosion of soils</li> <li>Ensure careful consideration of non-native invasive and alien species issues</li> </ul>	Climate change Environment and health and well being Sustainable economic activities
Material Assets	<ul style="list-style-type: none"> <li>Avoid and minimise waste generation</li> <li>Maximise re-use of material resources and use of recycled materials</li> <li>Minimise energy consumption and encourage use of renewable energy</li> <li>Promote sustainable transport patterns and modes where possible.</li> <li>Plan and provide for sustainable water management and wastewater treatment</li> </ul>	Restore and protect water quality Implementation of legislation Climate change Environment and health and well being Sustainable economic activities
Air Quality and Climate	<ul style="list-style-type: none"> <li>Adapt and improve resilience to the effects of climate change</li> <li>Encourage reduction in greenhouse gases through transport, energy, built development.</li> <li>Minimise adverse impacts associated with air and noise quality</li> </ul>	Climate change Implementation of legislation Environment and health and well being
Cultural Heritage	<ul style="list-style-type: none"> <li>Conserve, preserve and record architectural and archaeological heritage</li> <li>Avoid and minimise effects on historic environment features through sensitive design and consultation</li> </ul>	Environment and health and well being Sustainable economic activities
Landscape	<ul style="list-style-type: none"> <li>Enhance the landscape character of the area through design</li> <li>Integrate green infrastructure considerations</li> <li>Improve landscape connectivity to surrounding area</li> </ul>	Environment and health and well being Nature and wild places
Climate change and sustainability	<ul style="list-style-type: none"> <li>Adapt and improve resilience to the effects of climate change</li> <li>Promote local/ sustainable sourcing of materials</li> </ul>	Environment and health and well being Sustainable economic activities Climate change

SEA Topic	Principles/Implications for the LAP and SEA	EPA State of Irelands Environment 2016 Key Issues
Inter-relationships	<ul style="list-style-type: none"> <li>Promote sustainable design and innovation to reduce material consumption</li> </ul>	Implementation of legislation
	<ul style="list-style-type: none"> <li>Maintain and improve the health of people, ecosystems and natural processes</li> </ul>	Environment and health and well being
	<ul style="list-style-type: none"> <li>Minimise effects on landscape and historic environment features</li> </ul>	Sustainable economic activities
	<ul style="list-style-type: none"> <li>Adapt and improve resilience to climate change and extreme weather events</li> </ul>	Climate change
	<ul style="list-style-type: none"> <li>Actively seek to integrate opportunities for environmental enhancement</li> </ul>	Implementation of legislation Nature and wild places Restore and protect water quality Community engagement

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## **4.0 Environmental Baseline**

### **4.1 Introduction**

Article 5 of the SEA Directive states that the environmental report shall include the information that may reasonably be required taking into account:

- Current knowledge and methods of assessment;
- The contents and level of detail in the plan or programme and its stage in the decision-making process; and
- The extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

In addition, particular issues as they relate to the environment have been identified through the pre-draft submission process, as well as the responses to the SEA Scoping Report; these are summarised in the relevant section of this chapter.

The sphere of influence of the plan is variable, with potential water resources extending well beyond the plan area and potential interactions with the wider catchment, downstream of the plan area. For other parameters, the sphere of influence is more closely defined to a specific place, for example in relation to cultural heritage features.

### **4.2 Population and Human health**

This section provides information on the current population, demographic trends and changes in the LAP area adjacent DEDs between 2011 and 2016 Census. In addition, information is provided on economic and human health trends in the County. Impacts can arise on people's health and quality of life from a range of environmental factors, often through a combination of environmental impacts such as land use, water quality, air quality, noise and transport patterns.

Figure 2 below presents the LAP boundary and Census Data (2016) for Electoral Districts within the plan boundary. Figure 3 shows population density for the LAP.

Figure 2 Population (Census 2016)

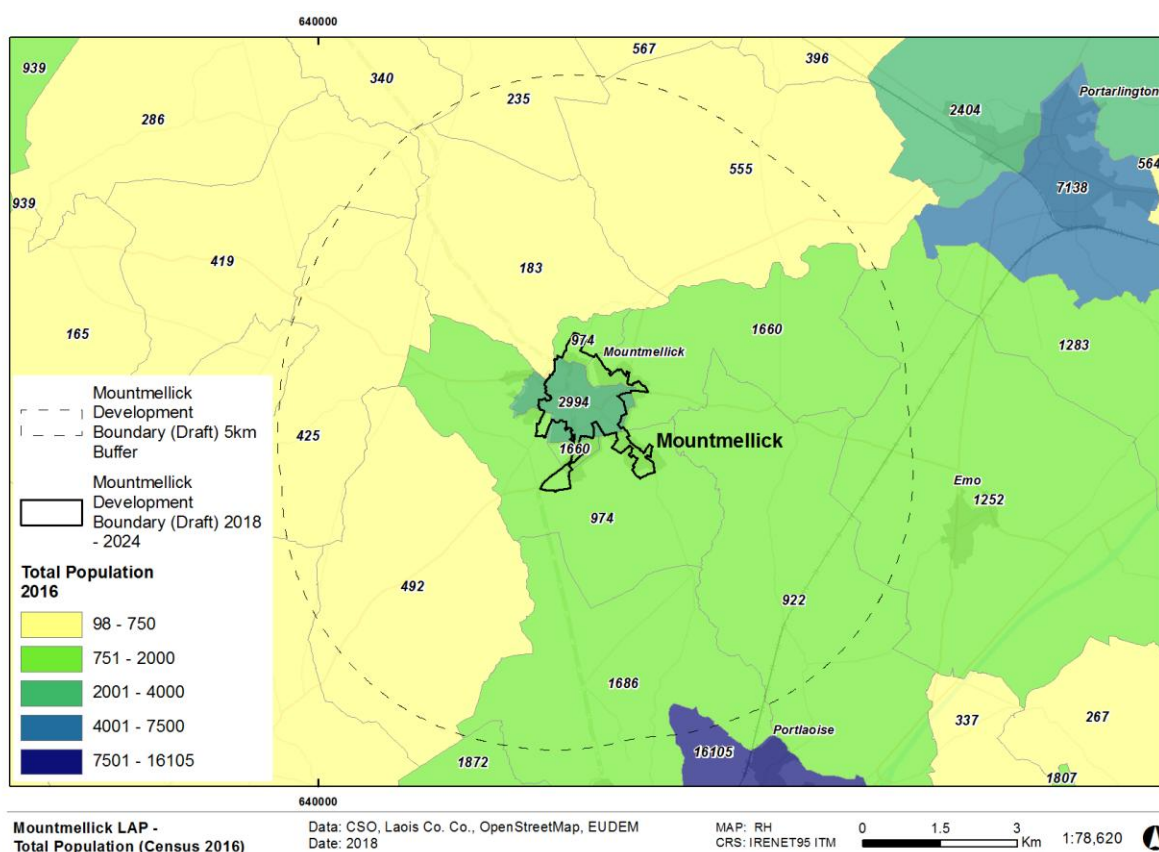
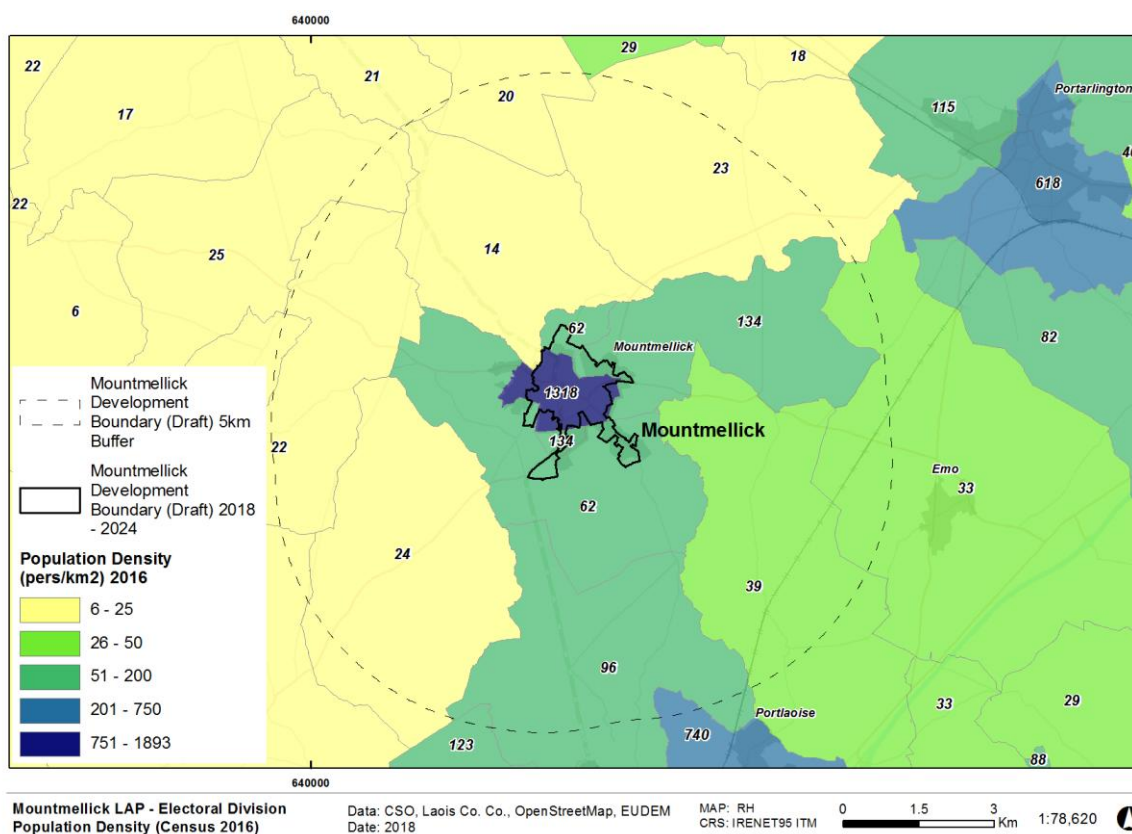


Figure 3 Population Density





#### 4.2.1 Population

County Laois has experienced significant population growth in the past decade, growing by 26.3% over the ten year period between 2006 and 2016. In the same ten year period, Mountmellick experienced a population growth rate of 17.4%. However, the proportion of the county's population living within Mountmellick has marginally decreased over this period, falling from 6.1% in 2006 to 4.1% in 2016.

Mountmellick benefits from a relatively young population, with 50% of the population below 35 years of age, compared to 47.1% elsewhere in the State. Mountmellick has a lower proportion of middle-aged and older residents, with just 21% of the population aged 55 or older, compared to 24% elsewhere in the State. Mountmellick also benefits from ethnic diversity with 7% of its population being non-Irish. Of particular note, is that almost 5% of the population is made up of EU nationals excluding the UK.

A summary of key population, housing stock and HP Deprivation and employment data from this census for the relevant EDs is provided below in Table 4.

**Table 4 Electoral Districts 2016 Census Data.**

Electoral District			
Mountmellick (Urban)			
Total Population	2,994		
Total housing stock	1389	Vacant	203
HP Deprivation Index <sup>1</sup>	Disadvantaged		
Unemployment Male	25.69%	Unemployment Female:	24.18%

#### 4.2.2 Human Health

Human health can be determined by social, environmental and economic factors, among others. Human health may be impacted upon in a variety of ways and by a number of environmental receptors such as water, biodiversity, climate, flooding, air and major accidents, etc. The exposure to contaminants or pollutants can have serious implications for human health. Potential impacts on population and human health include inadequate water and wastewater and waste infrastructure, contamination of soils, excessive noise, flooding and poor air quality in areas where there are large volumes of traffic.

The Institute of Public Health states:

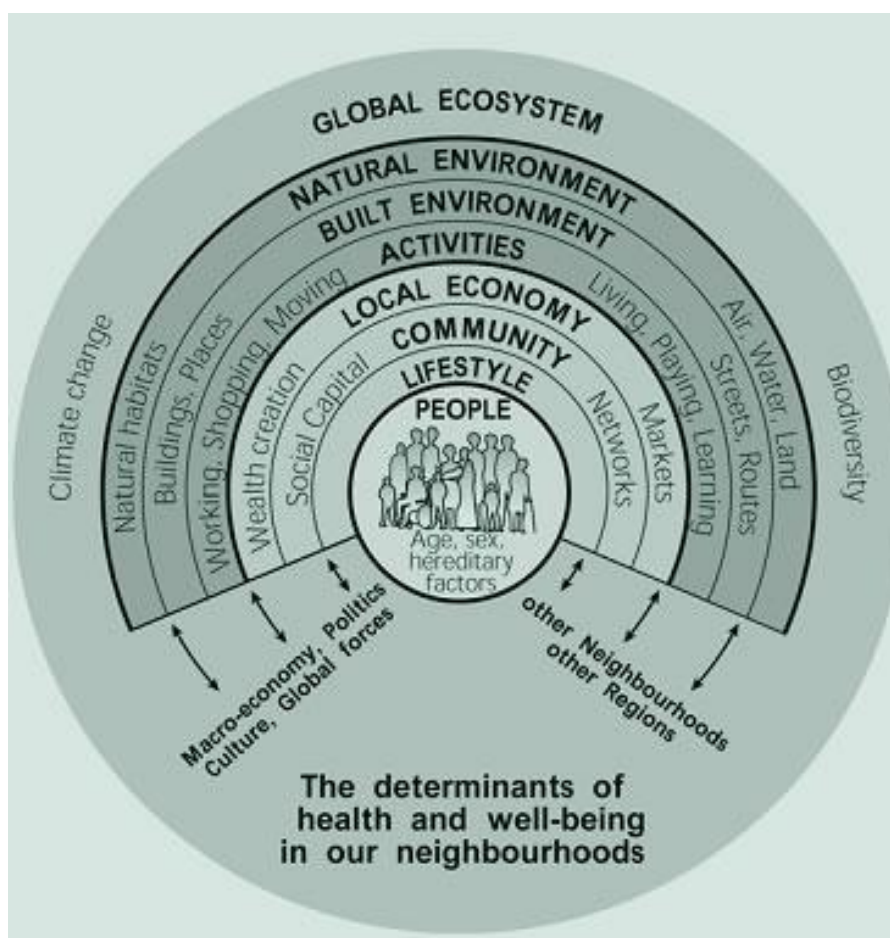
*'Where people live affects their health. There are a number of elements of the living environment that influence health including the built environment, travel choices and the communities in which people live. The design, maintenance and location of buildings influence health. Similarly, public spaces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

Disadvantaged people are more likely to live in poor quality built environments and have limited access to transport and local amenities supporting healthy choices. Figure 4 below identifies key factors that contribute to human health. This is followed by a summary of the

<sup>1</sup><https://maps.pobal.ie/WebApps/DeprivationIndices/index.html>

key environmental factors that can effect human health as identified through the SEA Scoping process.

Figure 4 the determinants of health and well being<sup>2</sup>



### Human Health and Noise

Environmental noise is treated in a different way to noise nuisance. A nuisance noise is something that occurs from time to time and is not usually considered to be a feature of life in the local area. For example, a noisy dog or late night parties are short term occurrences. Even if they happen regularly, they are not caused by any long term activities and so they are thought of as nuisance noise. Environmental noise is from long term or permanent sources, like major transport routes and factories. Noise from these sources has a different effect on people and is managed in a different way. The Environmental Noise Directive was written into Irish law in 2006, through The Environmental Noise Regulations (Statutory Instrument No. 140 of 2006). This law relates to the assessment and management of environmental noise. They provide for a common approach intended to avoid, prevent or reduce the harmful effects, including annoyance, due to exposure to environmental noise. These regulations do not apply to nuisance noise which can be dealt with under the Environmental Protection Agency Act.

<sup>2</sup> The determinants of health and well-being (Barton & Grant 2006)

Noise Action Plans are required under the Environmental Noise Directive (EU 2002/49/EC) transposed in to Irish law by SI 140 of 2006. Laois County Council prepared a Noise Action Plan for 2014-2018. This plan establishes the measures that the council intend to take to manage environmental noise exposure. This Action Plan follows the practice set down in the EPA Guidance and accordingly, hospitals, schools and housing are designated as noise sensitive premises.

In the context of the LAP, existing roads operate as the greatest noise generators. Noise mapping was undertaken on roads that meet the criteria of more than 8,000 vehicles per day. For Mountmellick, the closest road to meet these criteria is the N80 (south of Mountmellick to Portlaoise town). Therefore no noise mapping was required for Mountmellick under the Noise Action Plan.

The location of new residential properties, mixed residential/commercial use buildings or noise sensitive premises such as schools or hospitals, adjacent to existing roads, railways, airports, industry or recreational activities can result in significant noise management issues. Noise sensitive locations such as those above have particular requirements for low level noise environments in order to be able to function effectively. A high standard of insulation can be applied to improve noise attenuation in these buildings but this measure is rendered relatively ineffective when windows are opened. It also does not protect the external environment around the noise sensitive location from community/environmental noise.

### **Human Health and Air Quality**

The Air Framework Directive 96/62/EC (CEC, 1996) details how ambient air quality should be monitored assessed and managed. This Directive requires that member states divide their territory into zones for the assessment and management of air quality. Mountmellick is designated as Rural under the Air Quality Index for Health (EPA). The Air Quality Index of health<sup>3</sup> is based on hourly monitoring data from sites around Ireland and is based on measurements of five air pollutants all of which can harm health. The five pollutants are:

- Ozone gas
- Nitrogen dioxide gas
- Sulphur dioxide gas
- PM2.5 particles and
- PM10 particle

Mountmellick achieved 'good' air quality under this index when checked on 13<sup>th</sup> March 2018.

The Air Pollution Regulations (2012) were signed into law by the Minister for Environment, Community and Local Government on 31st August 2012. One of the key elements of the regulations has been the designation of new towns as smokeless zones and the expansion of the ban areas in towns that were previously covered under the old regulations. The smoky coal ban will apply nationally from Autumn 2018.

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<sup>3</sup><http://www.epa.ie/air/quality/>

The EPA State of the Environment Report (2016) has further highlighted the role of environmental quality and health and in turn has highlighted the adoption of the newer more stringent World Health Organization guideline values for air quality. The Clean Air Policy Package (EC 2014) involves a move to tackling air emissions at source with potentially tighter air quality standards from 2020 onwards<sup>4</sup>.

### **Radon**

The greatest health risk from radiation in Ireland is caused by radon. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer. Up to 250 cases of lung cancer in Ireland every year can be linked to radon. These lung cancer cases are principally associated with exposure to radon in the home, but exposure in the workplace is also a contributor. In the workplace, the employer must protect the health of workers from this identifiable risk.

Radon is only a problem if it is ignored and some simple, inexpensive and straightforward solutions are available to reduce excessive levels both in the workplace and in the home. The EPA Radon map shows that the majority of the LAP is situated within a 10km grid square in which between one to five percent of homes are estimated to be above the reference level for radon.

#### **4.2.3 Existing issues Population and human health.**

- Provision of community facilities, public open space, housing and design;
- Transport Network and Public Transport;
- Environmental Health relating to noise and air quality in particular.
- Addressing and increasing employment opportunities

As the noise maps show, much of the LAP area is subject to ongoing high sound levels and these can have long term negative effects on populations and human health.

### **4.3 Biodiversity, Flora and Fauna**

Much of the LAP lands can be classified as Built Land and Artificial Surfaces. In turn, this makes the areas of open space and water courses potentially important as green corridors and stepping stones for biodiversity.

#### **4.3.1 Designated Nature Conservation Areas**

There are no European designated (EU Habitats Directive 92/43/EEC) Special Areas of Conservation or Special Protection Areas located within the plan boundary. However, the Owenass River flows through the town which is a tributary of and forms part of the River Barrow Special Area of Conservation (Site Code: 002162). The Mountmellick SAC is located approximately 3km east of the settlement

The following Figures show designated (and proposed) nature conservation areas occurring within a 15 km radius of the LAP.

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<sup>4</sup> SEA ER of draft National Mitigation Plan , 2017.

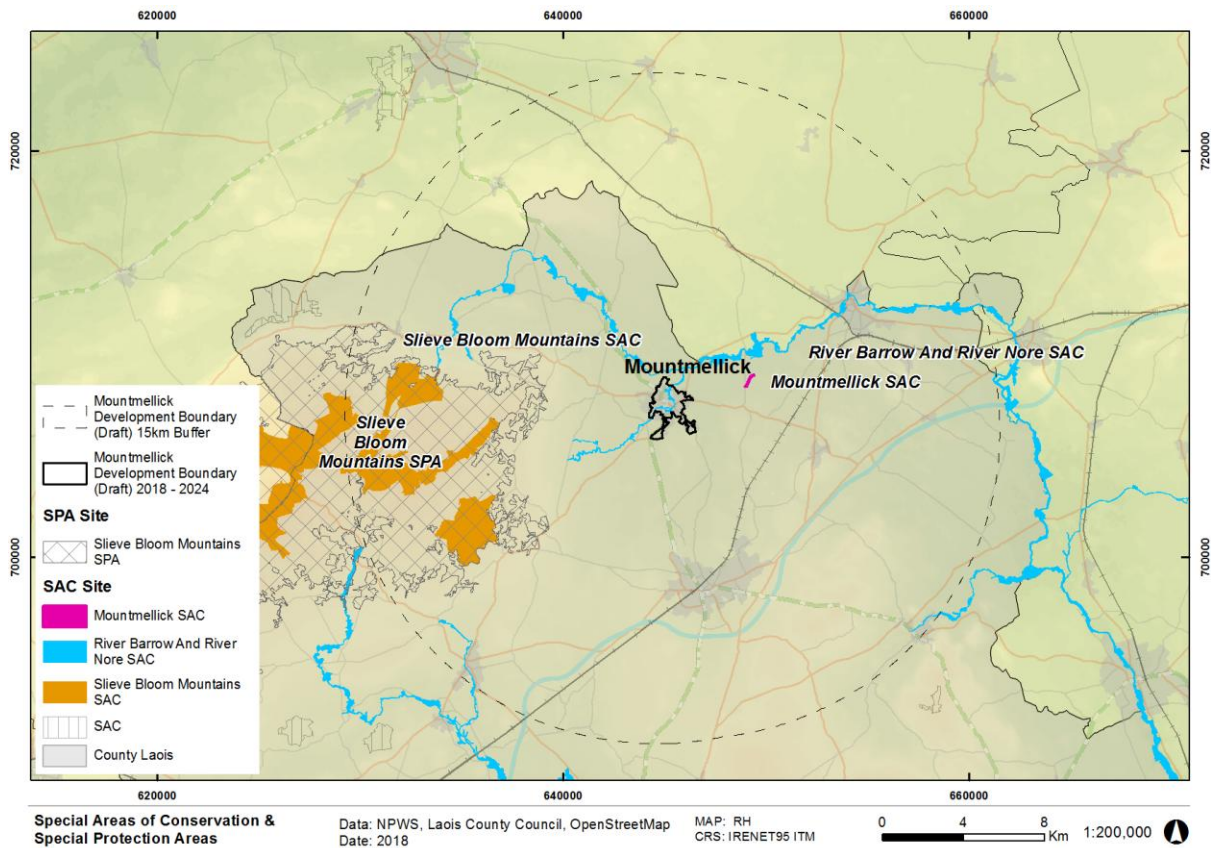
In addition to the River Barrow and Nore SAC, other conservation areas within 15km of the LAP are:

- Mountmellick SAC (site code:002141)- 3km east of Mountmellick
- Slieve Bloom Mountains Special Protection Areas 6.4km west
- Slieve Bloom Mountains Special - Area of Conservation ( site code- )8.8km west
- Clonreher Bog Natural Heritage Area (site code: 002357), approximately 4km south of the town.

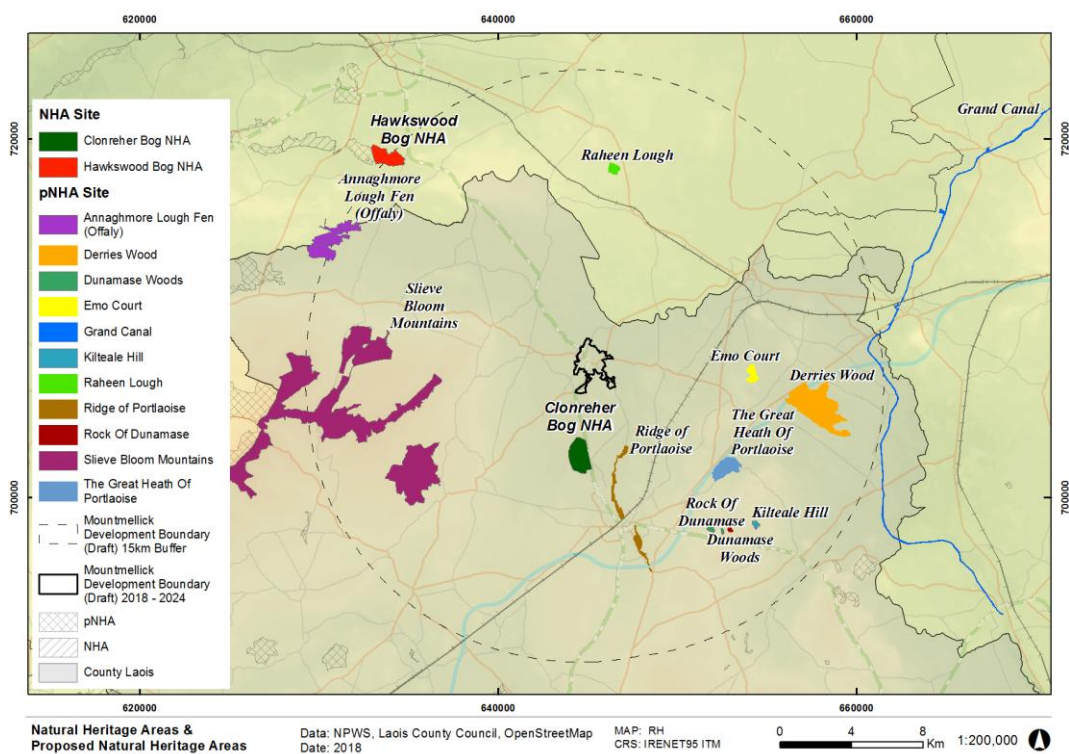
The Natura Impact Report that accompanies this LAP provides further information on the European Sites within this area.

Clonreher Bog NHA is the closest NHA to the plan area this comprises a raised bog that includes both areas of high bog and cutover bog. The site is bounded by the N80 to the east and the abandoned railway line (Mountmellick Branch) to the west. It can be accessed from bog tracks off the N80, to the north-east and south-east of the site. Much of the high bog has vegetation typical of a Midland Raised Bog, dominated by bog moss (*Sphagnum*) species, over which grow Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Deergrass (*Scirpus cespitosus*), Bog Asphodel (*Narthecium ossifragum*) and Bog Rosemary (*Andromeda polifolia*). To the north and south of the intact dome are expanses of cutaway bog, which are no longer in use and which are now overgrown with Purple Moor-grass (*Molinia caerulea*) and Ling Heather (*Calluna vulgaris*). In some areas Gorse (*Ulex europaeus*) and/or Downy Birch (*Betula pubescens*) are colonising and creating patches of scrub. There is an extensive area of scrub along the abandoned railway line to the west. Clonreher Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This site supports a good diversity of raised bog microhabitats and its southerly location, is of ecological interest.

**Figure 5 Special Areas of Conservation and Special Protection Areas within 15km of Mountmellick LAP**



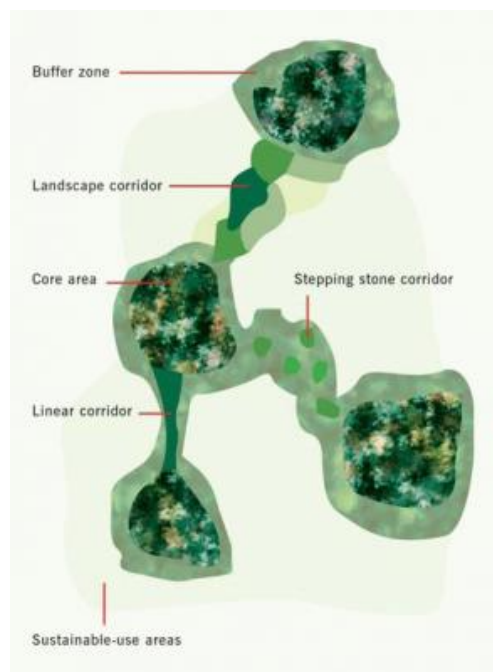
**Figure 6 Natural Heritage Areas and proposed Natural Heritage Areas within 15km of Mountmellick LAP**





#### 4.3.2 Ecological Corridors, Stepping Stones and Green Infrastructure.

As natural habitats become more fragmented as a result of human activity, habitat patches and corridors within a landscape mosaic become increasingly important for species to allow movement between populations, Figure 9 below presents an overview of the landscape mosaic with stepping stones and corridors.



**Figure 7 Landscape mosaic with stepping stones, corridors and core areas (source: <http://www.sicirec.org/definitions/corridors>)**

The Mountmellick Local Area Biodiversity Action Plan 2014-2019 provides a useful overview of biodiversity within the town:

*Mountmellick is a large town situated in north Co. Laois. As the aerial image in Fig. 2 below shows, the town is surrounded by the green of agricultural land with a mix of pasture and arable fields and some small woodland areas. The image shows how the hedgerows and treelines around the town connect up different areas and provide 'nature corridors' which are most important for biodiversity. This aerial image shows a diversity of habitat type in the general Mountmellick area from pastures to hedgerows to gardens to buildings. The Owenass river flows through Mountmellick. This river is one of the main tributaries of the upper section of the River Barrow. This river supports a wealth of biodiversity and is part of the River Barrow and Nore Special Area of Conservation (SAC) which is a designation under the E. U. Habitats Directive.*

The habitat survey carried out as part of the Action Plan identified the following habitats as being of particularly high Local Biodiversity Value:

- Hedgerows (WL1)
- Drainage Ditches (FW4)
- Mixed broadleaved/ conifer woodland (WD2)
- Depositing/lowland rivers (FW2)

Measures included in the Biodiversity Action Plan include meadow planting, bird and bat boxes and additional planting along riparian zones.

Stepping stones relate to small pockets of habitat can be used by species to shelter, rest or food provision. They can play an important role in facilitating longer distanced dispersal as well as refuges for species to breed in<sup>5</sup>. These can provide important links between larger protected areas and corridors, in this context, this could include small areas of wet grassland, ponds, old graveyards, and treelines.

Whilst the dominant land use is urban lands comprising built lands and artificial surfaces. Potential linkages along the Rivers Owenass and Barrow offer another opportunity to enhance ecological connectivity around the town and the wider landscape

#### **4.3.4 Existing issues Biodiversity, Flora and Fauna.**

Key issues relate to the following:

- Enhancing existing ecological resources
- Promoting and facilitating ecological connectivity
- Enhancing ecological considerations within the urban realm
- Provision of green and blue infrastructure to enhance ecological connectivity and provide mitigation in relation to air quality and noise emissions as appropriate as well as water storage/surface water attenuation where possible.
- Managing and controlling alien invasive plant species
- Minimising soil sealing and sustainable use of soil and water resources.
- Water quality of the surface waters.

#### **4.4 Water Resources including surface water management and flood risk**

Water resources and their quality have a clear interaction and impacts with other environmental parameters, therefore its protection and enhancement is of particular importance.

##### **4.4.1 Water Framework Directive**

The Water Framework Directive (WFD) is a key initiative aimed at improving water quality throughout the EU. It applies to rivers, lakes, groundwater, estuarine and coastal waters. The Directive requires an integrated approach to managing water quality on a river basin basis; with the aim of maintaining and improving water quality. The WFD identifies River Basin Districts as the key management units with clearly defined water bodies forming the basis for assessment reporting and management. The first cycle of RBD management plans were from 2009 to 2015 and the second cycle is currently being prepared. Currently the LAP is located within the Eastern River Basin District. However, for the second cycle the Eastern, South Eastern, South Western, Western and Shannon River Basin Districts will be merged to form one national River Basin District.

The most recent data for the new plans being prepared (with adoption due 2018) is from the catchments.ie website. A catchment is an area where water is collected by the natural

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<sup>5</sup> "Science for Environment Policy": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.



landscape and flows from source through river, lakes and groundwater to the sea. The LAP lands are situated within the Barrow Catchment (Catchment code: 14) summarised as follows<sup>6</sup>:

*This catchment includes the area drained by the River Barrow upstream of the River Nore confluence and all streams entering tidal water between the Barrow railway bridge at Great Island and Ringwood, Co. Kilkenny, draining a total area of 3,025km<sup>2</sup>. The largest urban centre in the catchment is Carlow. The other main urban centres in this catchment are New Ross, Graiguenamanagh, Athy, Portlaoise, **Mountmellick**, Portarlinton, Monasterevin and Kildare. The total population of the catchment is approximately 188117 with a population density of 62 people per km<sup>2</sup>. The Barrow catchment is underlain in its flat northern area by limestones of varying purity which continue down the western side of the catchment and sustain good groundwater resources in places. On the eastern side of the catchment, granites dominate, culminating in the summits of the Blackstairs Mountains.*

Mountmellick Town straddles two sub catchments (sub catchment codes 010 west of the Owenass River and Sub catchment 020 east)

#### **4.4.2 Surface Water**

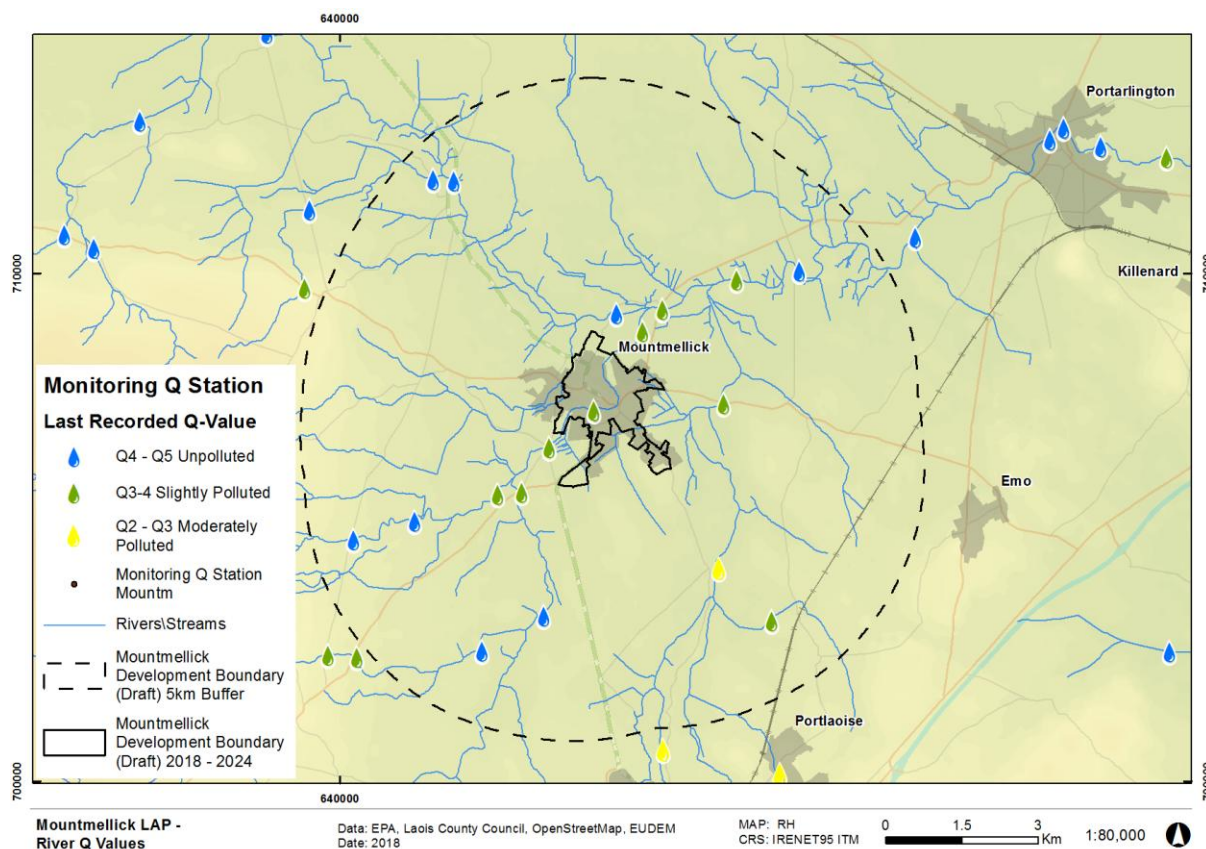
Three surface waters run through Mountmellick area; whilst the River Owenass is the principal river that runs through the town centre, the River Barrow drains the northern plan area; and the River Triogue flows southwards towards Portlaoise Town.

Surface water status is classified under the WFD from 'high' to 'bad' status. In measuring this status both ecological and chemical parameters are measured and the overall status is determined by the lower threshold achieved for both ecological and chemical parameters. The latest information from the catchments.ie website shows the overall WFD status of the three surface waters as Moderate (Q value 3-4) as they flow through the plan area.

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<sup>6</sup> [www.catchments.ie](http://www.catchments.ie)

**Figure 8 Surface Water Quality Mountmellick**



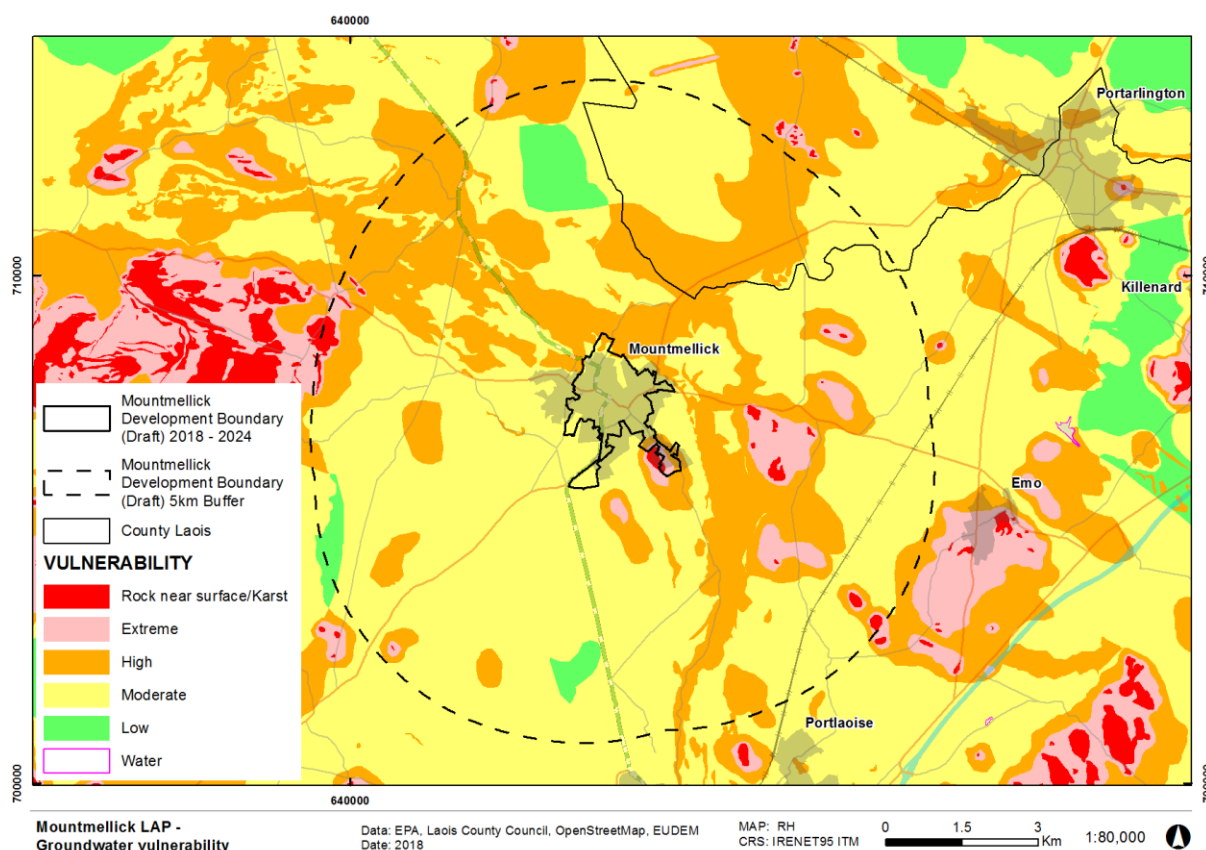
#### 4.4.3 Groundwater

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

The Geological Survey of Ireland's Groundwater Vulnerability Mapping shows the groundwater vulnerability for the area of the LAP within a catchment where groundwater vulnerability is considered moderate for much of the LAP Area; the groundwater of the

townlands of Acragar (south west) is classified as high to extreme. The Figure below shows the groundwater vulnerability for the LAP.

**Figure 9 Groundwater Vulnerability**



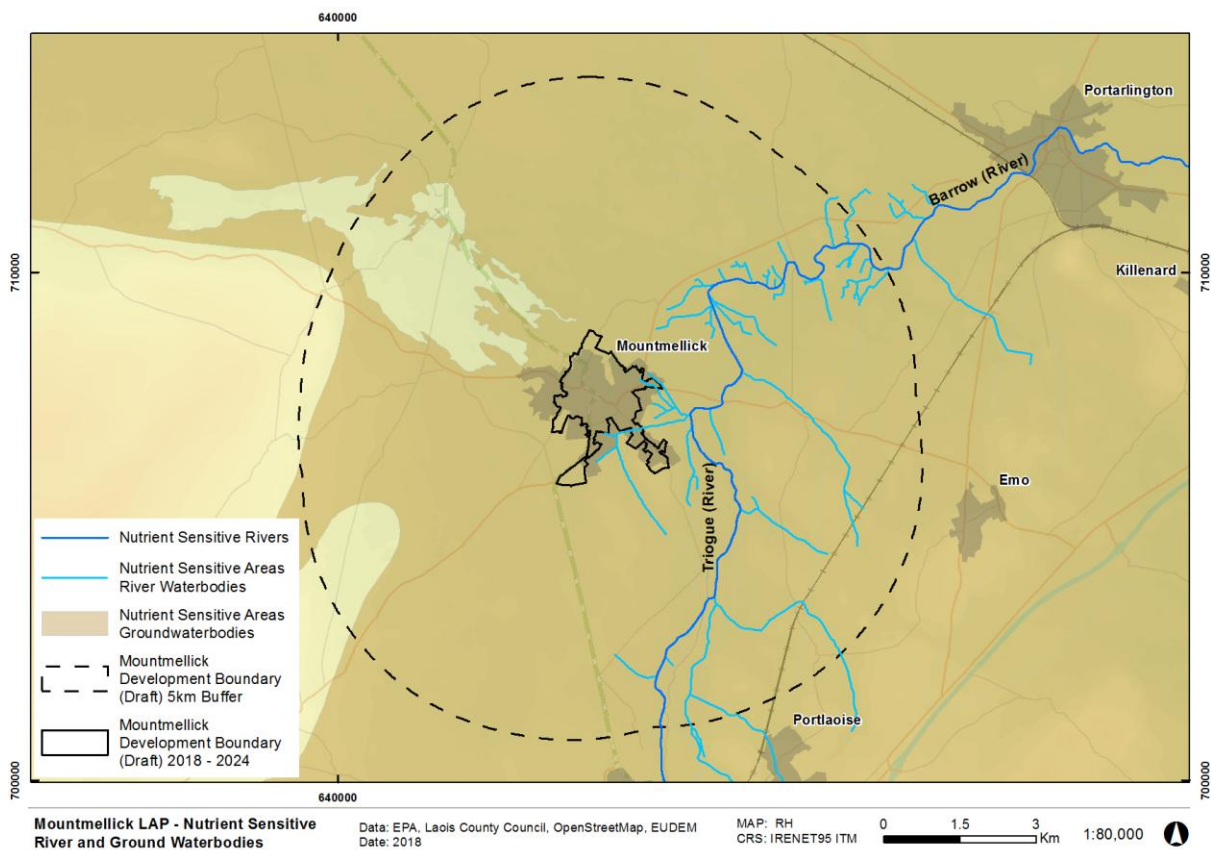
#### 4.4.4 Register of Protected Areas (RPA)

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas (RPAs). Protected areas are areas that have been designated as needing special protection because of their particular importance for use as bathing waters, drinking water supply, growing and harvesting of shellfish, conserving sensitive habitats and species or because they are particularly affected by eutrophication due to excessive inputs of phosphorus and/or nitrogen.

Entries to the RPAs in County Laois include the channels of the Triogue River and the River Barrow by virtue of their nutrient sensitivity. Nutrient Sensitive Areas comprise nitrate vulnerable zones designated under the Nitrates Directive (91/676/EEC) and areas designated as sensitive under the Urban Waste Water Treatment Directive (91/271/EEC).

The LAP is also within a groundwater area designated as Nutrient Sensitive.

**Figure 10 Nutrient Sensitive Waters**



#### 4.4.5 Flooding and Flood risk

The Planning System and Flood Risk Management, Guidelines for Planning Authorities, 2009, issued by the DoEHLG and undertaken in conjunction with the OPW, requires Planning Authorities to prepare a Strategic Flood Risk Assessment (SFRA). The primary purpose of the SFRA is to determine flood risk within a particular geographical area. It should be noted the SFRA is an ever evolving document, which is to be reviewed and updated on a regular basis in the light of emerging information, flood data and an improved understanding of flood risk. Section 4.20 of the above Guidelines states:

*'Flood risk identification (Stage 1) to assess whether full flood risk assessment is required, should ideally be carried out in a manner that is integrated with the SEA process rather than constituting an additional and separate process. Any subsequent stages of flood risk assessment should also be carried out in a way that is integrated with the SEA process.'*

Following the severe and unprecedented flooding in November 2017 Laois County Council has agreed in conjunction with the Office of Public Works (OPW) the urgent commencement of detailed design and engineering specifications for flood defences in Mountmellick. The detailed design will include a review of the Catchment Flood Risk Assessment and Management mapping (CFRAM) taking into account the recorded flood depths on 22nd November 2017 and the identification of any additional flood defences necessary. A Project Office will be established locally to manage the design, implementation and construction of a flood relief scheme on behalf of an in partnership with the OPW during the lifetime of this plan. The Council is considering further short term actions including an improved flood/

rainfall community alert system, further river and channel clearance works and the provision on a pilot basis, of defence equipment for flood prone and flood affected domestic properties. A programme of river channel clearance in the Blackwater and Owenass catchments has taken place in recent months.

As the frequency, pattern and severity of flooding are expected to increase as a result of climate change, it is vitally important to take account of flood risk in the preparation of development plans such as this Draft LAP and ensure that any development does not individually or cumulatively give rise to flood risk. The Draft LAP avoids development in areas at risk of flooding and has substituted vulnerable land uses with less vulnerable uses where this is not possible. Where neither is possible, mitigation and management of risks must be proposed. Justification tests were carried out on a number of sites and are detailed in the SFRA report accompanying this Draft LAP. The SFRA has recommended that development proposals for a number of areas within the plan boundary should be the subject of site-specific flood risk assessment appropriate to the nature and scale of the development being proposed.

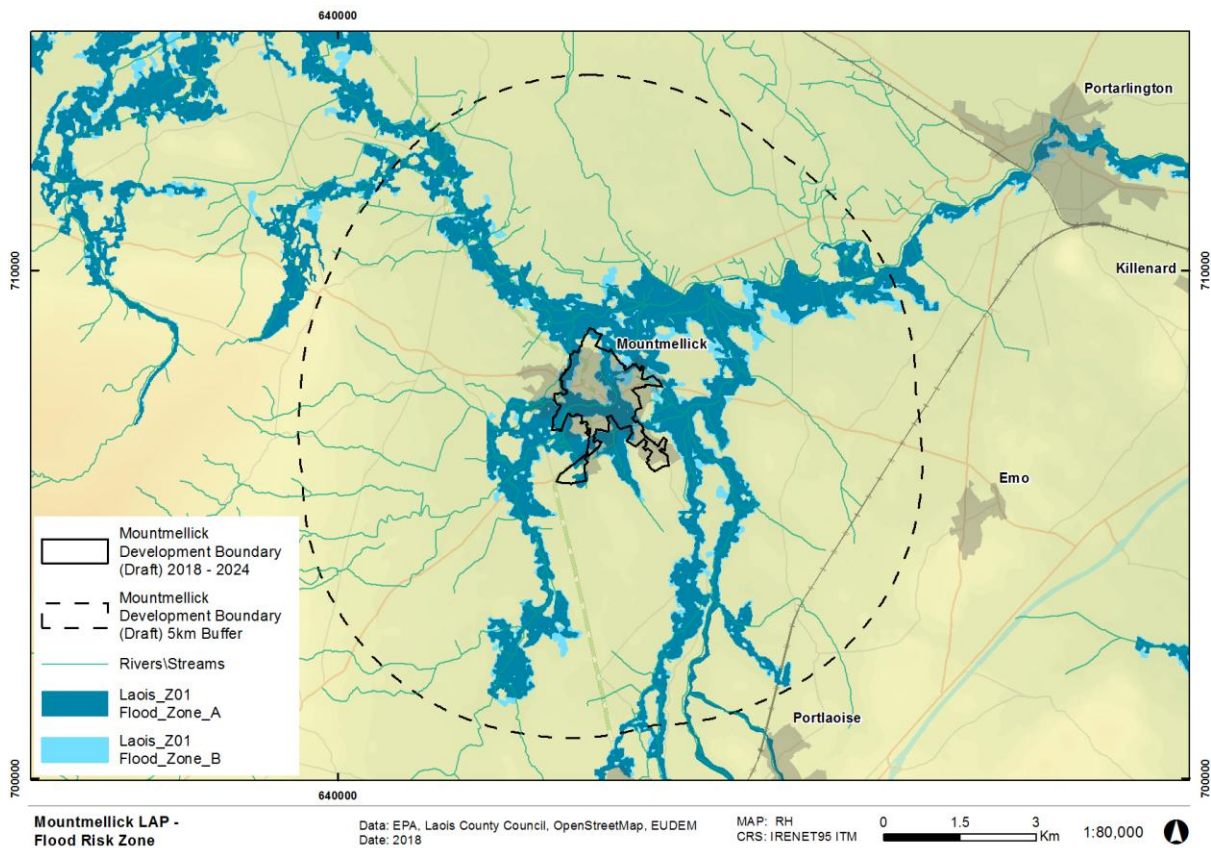
The Catchment Flood Risk Assessment and Management (CFRAM) programme is a medium to long term strategy for the reduction and management of flood risk in Ireland covering seven river basin districts in Ireland. Portarlinton and its environs lie within the South Eastern River Basin District and were identified as an “Area for Further Assessment” (AFA) through CFRAM. A Hydraulics Report and Preliminary Flood Risk Assessment (PFRA) mapping has been completed as part of the CFRAM study which provides the complete assessment of flood risk in the town.

A number of approaches to managing flood risk in Mountmellick have and will be employed during the making of this Local Area Plan and also in dealing with planning applications for particular developments. These include:

1. Areas at risk of flooding have been identified;
2. A precautionary approach has largely been employed to land use zoning to avoid directing development towards areas at risk of flooding;
3. Areas at risk of flooding as identified which are being put forward for land use zoning have been subject to assessment through the justification test;
4. Where particular areas were examined as being strategically important for the consolidated and coherent growth of the town and zoned accordingly, area specific flood risk assessment will be required and mitigation measures for site and building works will be required to be integrated.



**Figure 11 Flood Risk**



#### 4.4.6 Existing issues – Water Resources

Key issues include:

- Planning and mitigating flood risk
- Ensuring flood risk is fully considered and embedded in the LAP.
- Improving surface water quality
- Ensuring no further deterioration in surface water
- Ensuring the status of Not at risk (of meeting WFD objectives) is kept and maintained for Groundwater
- Avoiding the spread of alien and invasive species

### 4.5 Geology<sup>7</sup> and Soil

#### 4.5.1 Geology

Mountmellick is located within broad bedrock of Lower Carboniferous Limestones. Mostly these limestones accumulated as horizontal layers on a fairly shallow 'shelf' sea floor although some of the younger layered limestones, around 325 Ma, are much darker in colour and were deposited in considerably deeper water. Although the limestones mostly

<sup>7</sup> The Geological Heritage of County Laois An audit of County Geological Sites in County Laois by Matthew Parkes, Ronan Hennessy, Robert Meehan, Vincent Gallagher and Sarah Gatley 2016

form low ground across the centre of the county, they are well exposed in various working and disused quarries and on some of the low hills in the south of the county.

As elsewhere across Ireland, the ice sheets and glaciers of the last Ice Age have modified the Laois landscape, although in a more subdued way than in some of the more mountainous regions of Ireland. The main effect has been to blanket much of the lowlands with glacial till, or 'boulder clay'.

Another notable feature associated with glaciation is the eskers that are found particularly around the midland and one of which is south of the plan area – the Ridge of Portlaoise. These features, although long subjected to quarrying and extraction, are important geo-diversity features in the landscape.

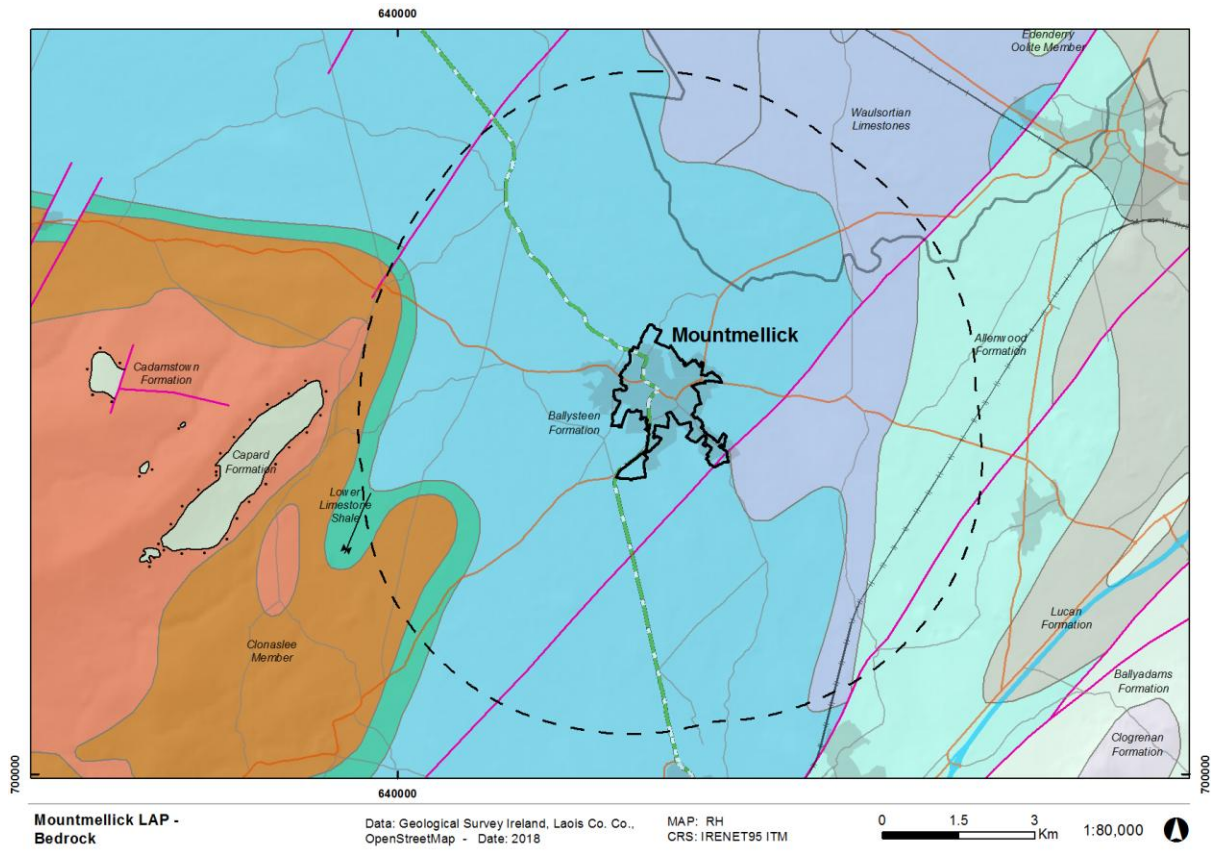
Only two Geological Heritage Sites are located close to the LAP area, and none within the plan area itself. The figure below shows such sites within 15km of the LAP boundary and the accompanying table provides a brief description of those sites closest to the LAP boundary.

**Table 5 Geological Heritage Sites closest to LAP boundary.**

Name	Brief Description
Darkin Well	This site comprises a significant spring rising within a fenced compound. Site Importance: The site is of County Geological Site importance, as a complement to the Sluggory Cross Road swallow hole site, and as part of a suite of karstic features within the limestone terrain surrounding Mountmellick Town
Ridge of Portlaoise	The Ridge of Portlaoise and its surrounding sands and gravels include a long, sinuous accumulation of sands and gravels deposited both under the ice sheet and at its margin as the ice withdrew northwards across central Laois at the end of the last Ice Age. Site Importance: What remains of the feature is still a high, striking example of a dry sand and gravel ridge, which stands proud of the surrounding landscape. This esker and the associated sands and gravels in the locality are a good example of a deglacial, meltwater-deposited complex, with portions deposited under the ice, and portions at the ice margin.

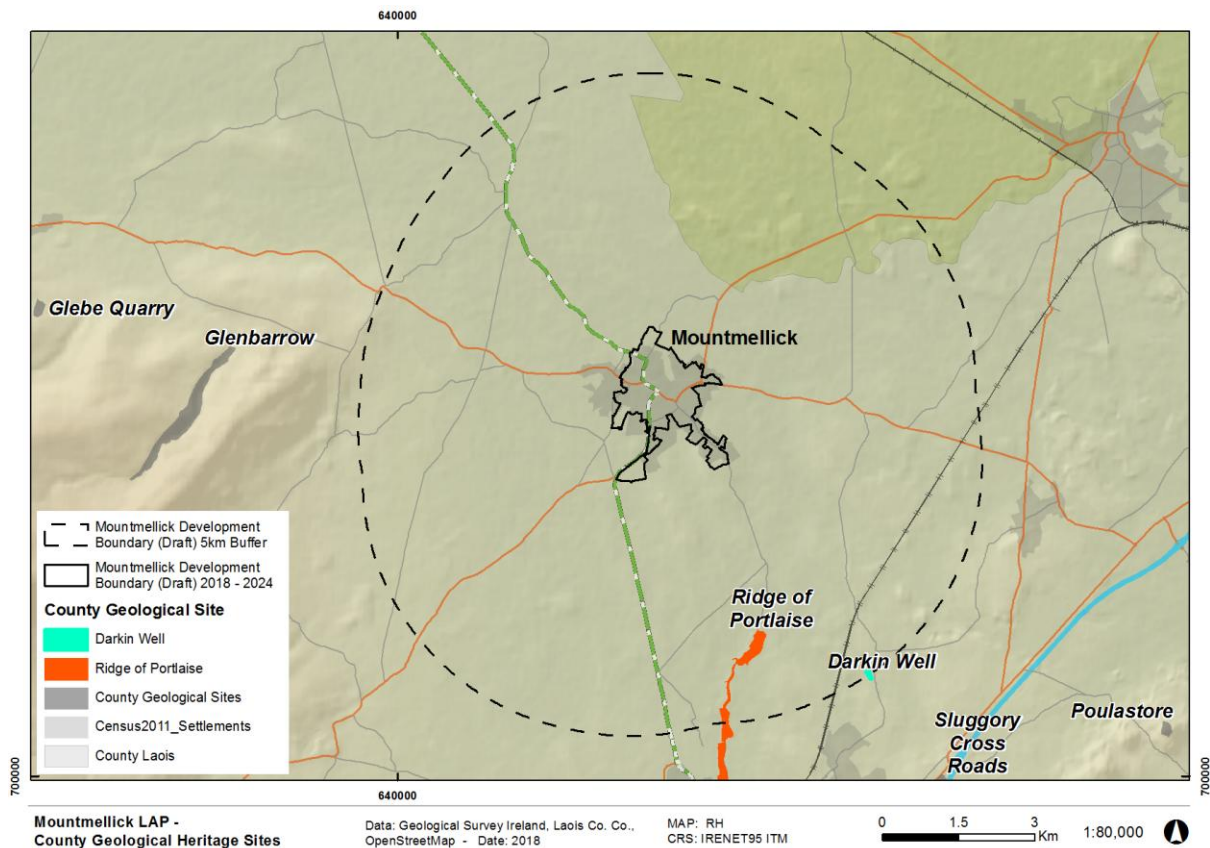
The bedrock geology, quarries and geological heritage sites relevant to the Plan area is shown below:

Figure 12 Bedrock Geology





**Figure 13 Geological Heritage Sites within 15km of LAP.**



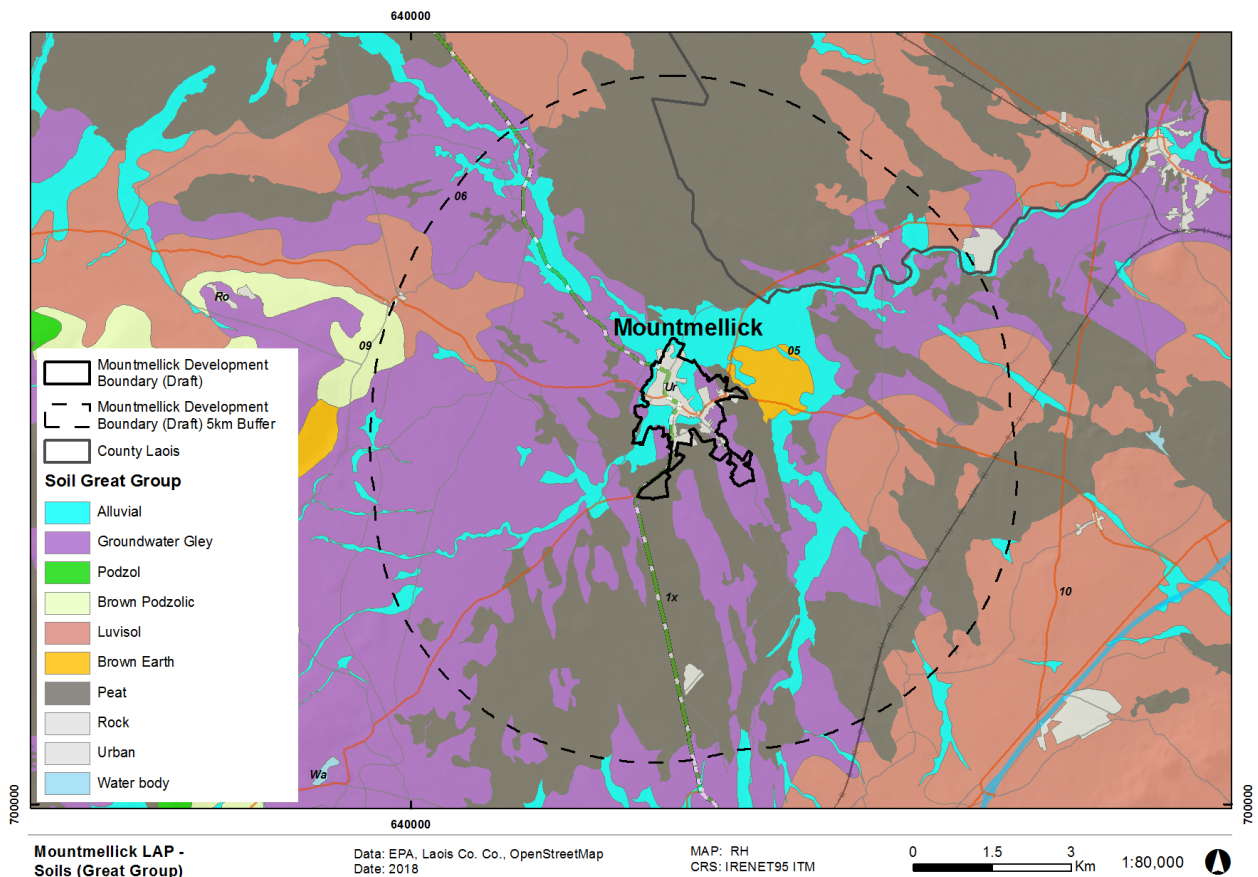
#### 4.5.2 Soil

Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

There is no overarching soil legislation in place currently, however the 7<sup>th</sup> Environment Action Programme (EAP) recognises the challenge of soil degradation and provides by 2020 that land be managed sustainably with soil adequately protected.

Whilst much of the LAP lands are classified as urban according to the Teagasc soil map, reflecting the built up character of much of the LAP, the surrounding soils are largely alluvial soils associated with the Rivers Barrow, Owenass and Triogue. Surrounding soils are identified as the Mylerstown subseries of soils, defined by fine loamy drift with limestones and an extent of peat soils south of the plan area.

Figure 14 Soil Types



#### 4.5.3 Existing issues – Geology and Soil

- Maintaining and enhancing soil function and its carbon storage role where possible.
- Retention of areas of greenfield in terms of flood risk, water storage, open space, green infrastructure and biodiversity considerations.
- Potential soil contamination associated with brownfield sites or sites subject to previous industrial activities.

Because of the complex interrelationship between water, air and soil, declining soil quality can contribute to negative or declining water or air quality and function.

#### 4.6 Climatic Factors and climate change

The context for addressing climate change and energy issues in Laois County, are set within a hierarchy of EU and National Legislation and Policy. At a European level these directives include, the EU Climate and Energy Package 2008, EU Renewables Directive 2009/28/EC and EU Energy Efficiency Directive 2012/27/EU.

The EU Climate Change and Energy Package 2008 resulted in the 2020 EU wide '20-20-20' energy targets as follows:

- a 20% reduction in EU greenhouse gas emissions from 1990 levels; raising the share of EU energy consumption produced from renewable resources to 20%; and
- a 20% improvement in the EU's energy efficiency.

Under the EU Energy Efficiency Directive 2009/28/EC, each Member State has been assigned a legally binding individual renewable energy target. The Directive's target for Ireland is that 16% of the national gross final consumption of energy will comprise renewable energy sources by 2020, across the electricity, heat and transport sectors.

The Climate Change and Low Carbon Development Act 2015 now provides a statutory, overarching basis for climate change in Ireland. It provides structures to transition to a low carbon economy through the following:

- a national mitigation plan (to lower Ireland's level of greenhouse emissions);
- a national adaptation framework (to provide for responses to changes caused

#### **4.6.1 Greenhouse Gas Emissions**

Agriculture is the largest contributor to overall emissions, however in terms the LAP – energy and transport – the next largest contributors are the most relevant; Promoting a modal shift in transport patterns, along with energy efficiency are key measures to assist in reducing Greenhouse Gas Emissions.

#### **4.6.2 Key Issues for consideration**

- Planning for and adapting to climate change
- Sectoral policies can assist in this including transport and energy
- Measures including carbon sequestration in existing soils and additional appropriate vegetation planting associated with green infrastructure and ecological corridors.

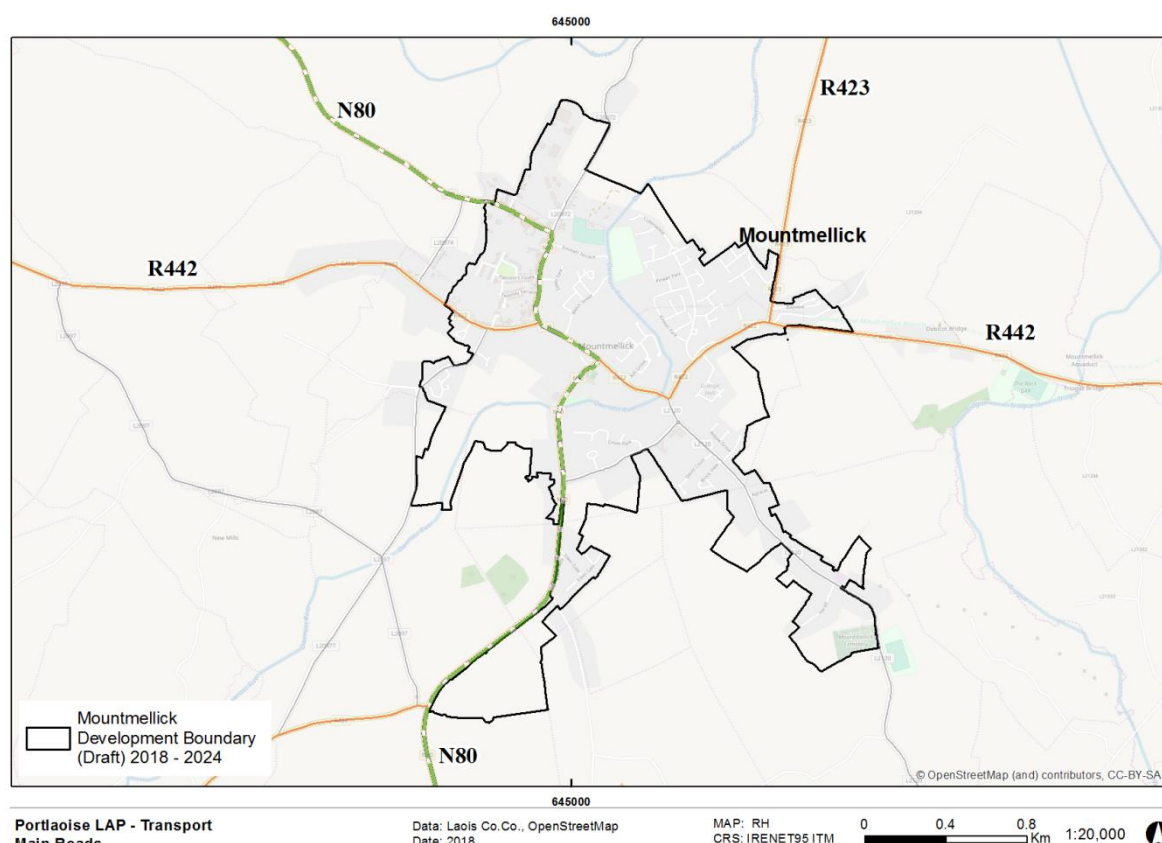
#### **4.7 Material Assets**

The EPA SEA Process Draft Checklist (2008) defines material assets as the critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment, transportation, etc. An overview is provided below.

##### **4.7.1 Transport**

Mountmellick is located on the N80 National Secondary Route in close proximity to Portlaoise, Tullamore and the Greater Dublin Area. Mountmellick has strategic road links to the entire country via the M7 and M8 motorways in close proximity at the Togher Interchange, Portlaoise, the N80 National Secondary Road and a network of regional (including the R423 Mountrath to Mountmellick and R422 Clonaslee to Emo) and local roads. The N80 is designated a National Transport Corridor in the National Spatial Strategy 2002. Local bus routes provide services in the town and a service linking Mountmellick to Portlaoise and Tullamore.

**Figure 15 Existing Transport Network**



#### **4.7.2 Water Services**

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001) and the Urban Waste Water Treatment (Amendment) Regulations 2004 (SI 440 of 2004). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. The treatment of wastewater is relevant to the Water Framework Directive which requires all public bodies to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2027.

#### **Water and Wastewater**

Currently, within the settlement of Mountmellick 1,634 households are connected to the public mains water supply and 1,565 households are connected to the public sewer system. The Mountmellick Wastewater Treatment Plant has the capacity to cater for a population equivalent of 3,000.

Irish Water has recently (February 2018) commenced upgrading the Wastewater Treatment Plant at Mountmellick which discharges treated wastewater to the Owenass River. The works will improve the level of treatment at the plant and improve the discharge quality of treated water from the plant into the Owenass River. The upgrade will also improve the energy efficiency of the plant. The project includes upgrades to the existing pumping station,

a new inlet works and grit removal system to prevent large debris from entering and damaging the treatment plant and an upgrade to the aeration system which will improve the overall treatment processes at the plant

Awaiting departmental approval is the joint Portlaoise and Mountmellick Water Supply Scheme under which the following are planned: construction of 10 new wells, 12 kms. of new watermain, new reservoirs at Emo, Straboe, and Acragar and extended capacity at Kilminchy Water Treatment Plant.

The River Owenass acts as the receiving waters for this plant. Currently there is capacity in the waste water treatment plant and public water supply. However, extra capacity is required to implement the policies and objectives of this plan.

#### **4.7.3 Waste Management and IPPC**

The Regional Waste Management Plan 2015-2021 for the Eastern-Midlands Region encompasses the local authorities: Dublin City, Dún Laoghaire- Rathdown, Fingal, South Dublin, Kildare, Louth, Laois, Longford, Meath, Offaly, Westmeath and Wicklow. The regional plan provides the framework for waste management for the next six years and sets out a range of policies and actions in order to meet the specified mandatory and performance targets.

The Waste Framework Directive<sup>8</sup> (WFD) has incorporated previous separate directives that addressed waste oils and hazardous waste. Principles in relation to waste prevention, recycling, waste processing and the polluter pays principle are included within this Directive.

In 2014 the EC adopted a communication promoting the Circular Economy, The circular economy considers waste as a resource which in turn can be recirculated into systems that focus on maintaining, repairing, reusing, refurbishing and recycling materials.

Denmark, Sweden, Japan, Scotland and the Netherlands<sup>8</sup> are currently the most advanced countries in terms of embedding the circular economy into their waste management system. Key elements of the communication include:

- Increase recycling and preparing for municipal waste to 70% by 2030
- Increase recycling and preparing for reuse of packaging waste to 80% by 2030
- An aspiration to eliminate landfill by 2030
- Member states to be responsible for ensuring the separate collection of biowaste by 2025.
- Reduction of food waste by at least 30% by 2025.

In terms of existing waste facilities, the sole landfill site for the County is at Kyletalesha. The landfill site operates under Environmental Protection Agency Waste Licence since May 2000. The landfill site accepts waste at a rate of up to a maximum of 47,100 tonnes per year. Glass and can bring banks are also available at two locations in Mountmellick.

#### **4.7.4 Energy and Broadband**

Mountmellick is served by a high capacity electricity system. Within the settlement 1,130 households have broadband internet services.

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<sup>8</sup><http://circulatenews.org/2015/04/an-introduction-to-circular-economy-in-scandinavia-sweden-and-denmark-leading-the-race-to-circularity/>

#### **4.7.5 Key Issues for consideration**

Transport considerations and integrated land use as well as increasing permeability around the plan area are key issues for the LAP and SEA.

Key issues to consider for material assets include:

- Planning for and maintaining sufficient water services and capacity for the plan area
- Consideration of receiving waters for wastewater
- Encouraging sustainable use of resources
- Reducing reliance on private transport, and enhancing walking/cycling measures
- Workable alternatives to private transport and future public transport services and infrastructure in the area
- Development standards affecting transport e.g. car parking
- Energy efficiency
- Promotion of the circular economy.

#### **4.8 Cultural Assets –archaeology and built heritage**

Mountmellick is a recent town with little historic reference predating the seventeenth century. The Y-shaped plan of the town came about as the meeting place of the old roads from Tullamore and Birr with the axis of the main street followed the line of traffic to a ford in the river. A later bridge to the southeast of the town afforded crossing of the river (Feehan 1983). The Irish ghetto lay south of the town in the area still known as Irishtown.

Timber fuelled Mountmellick's first industry and Laois had some of the greatest primeval woods in Ireland. Wood was used to make charcoal, for ship building and in buildings. River access allowed easy transport to England but the River Barrow was inadequate and wood around Mountmellick was used mainly for the smelting of iron (Meredith 2004) and an ironworks at Mountrath employed 2000 people (QHP, 1994). Loftus founded an ironworks in the 1650s on the river and they are shown on the Down Survey to include a large mill pond, watermill, and an iron furnace north of the village (Lane & Nolan, 1999). This area became known as Forgeland in 1641.

The Cromwellian regime treated the Quakers relatively well and in 1659 a number of settlers came to the town to found a Quaker meeting in the town. Mountmellick was to become the most important Quaker centre outside Dublin<sup>9</sup>.

##### **4.8.1 Archaeology**

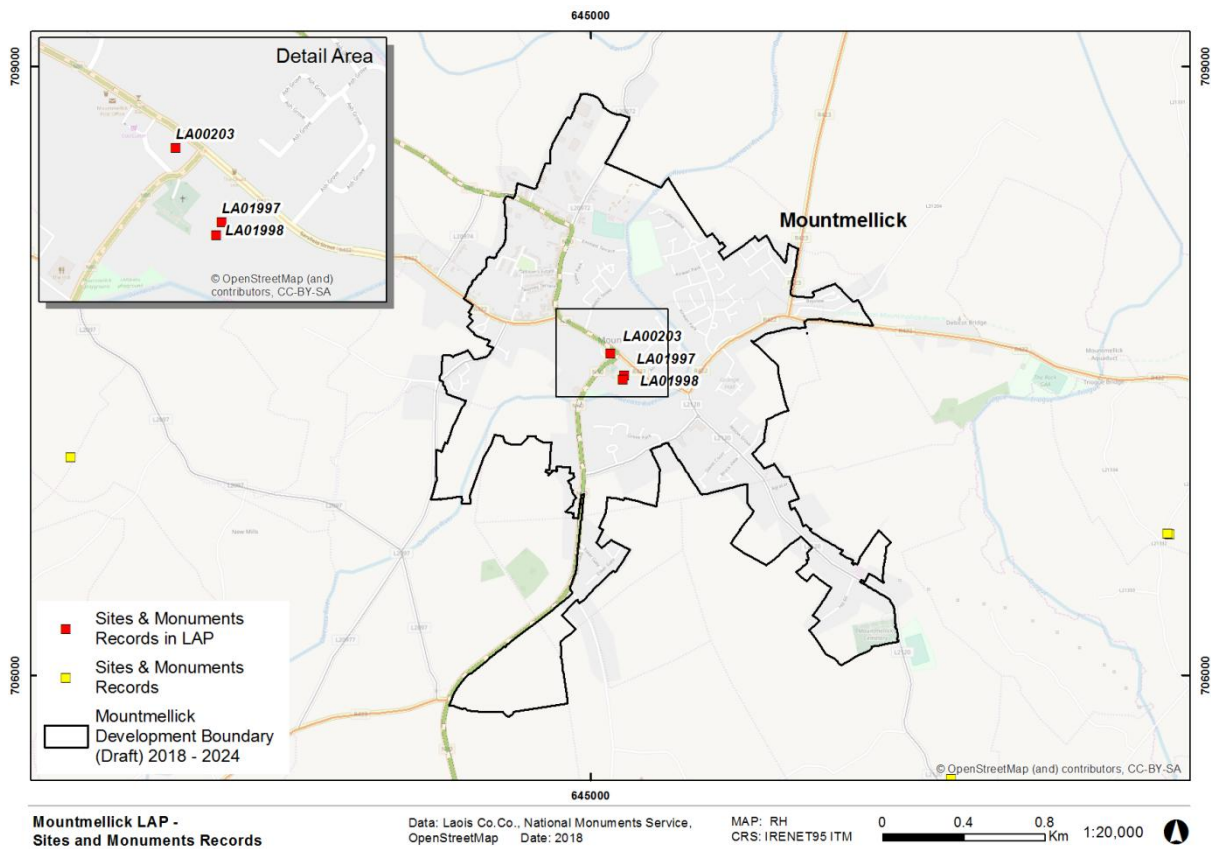
Only three sites are listed on the Sites and Monuments Record within the LAP, these are a church, graveyard and the historic town. See Figure 17 below for the location of these sites.

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<sup>9</sup>MOUNTMELICK ARCHITECTURAL CONSERVATION AREA DECEMBER 2013 CHARACTER APPRAISAL



**Figure 16 Sites and Monuments Record**



#### 4.8.2 Built Heritage

The Architectural Heritage (National Inventory) and Historic Monuments Act 1999 defined architectural heritage as being all *‘structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific or social interest.’*

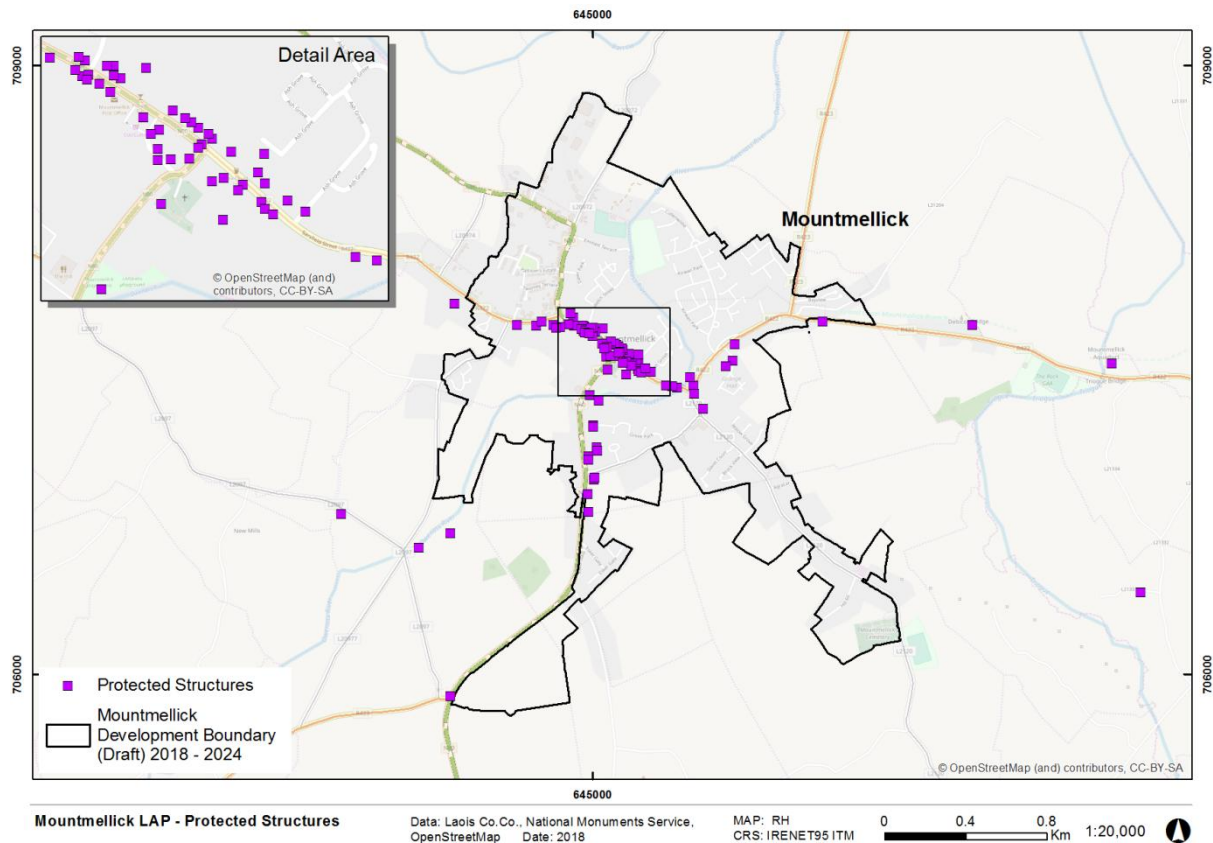
The Planning and Development Act 2000 (as amended), provides for a number of methods of preservation of such structures. These include the Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACA). Mountmellick Historical Centre is proposed for designation as an ACA as part of the LAP and a Character Appraisal in support of same was carried out in 2013.

In addition to the historic core, numerous additional structures worthy of preservation are located within the LAP boundary. Such buildings or structures are noted within the RPS. Protected Structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. There are approximately 74 no. Protected Structures within the development boundary of Mountmellick. The following figure shows the structures listed on the Record of Protected Structures.

More generally, there are a number of older buildings that are unoccupied as well as one site that is identified as Opportunity Sites in the LAP; reuse of these buildings is both more

sustainable and adds a further lifespan to these structures, adaptive re-use of these buildings contributes to the cultural heritage, as well as townscape, town centre viability and is a more efficient use of resources.

**Figure 17 Record of Protected Structures**



#### 4.8.3 Key issues – Cultural Assets

Key issues include:

- Potential for additional archaeological resources
- Enhancing and linking cultural heritage of the area
- Conservation and enhancement of ACA
- Promotion of heritage features as tourist attractions
- Archaeological input on the archaeological implications of any new development proposed in the Local Area Plan

#### 4.9 Landscape and townscape

Mountmellick is located at the point where an esker running north for Portlaoise meets the Owenass River. This was a natural route through the bogs and woodlands of north Laois. The river was a traditional political divide since Medieval times.

##### *Landscape and Open Spaces*

Mountmellick is located in the Lowland Agricultural Areas landscape character type. The type is comprised primarily of pastoral and tillage agriculture. It is generally a flat open



landscape with long- range views towards the upland areas. Field patterns tend to be large scale and are generally bounded by deciduous hedges containing mature trees.

The landscape type has been more extensively developed than the other LCT's particularly in the north east where Mountmellick is located, on the border with Co. Offaly. This has resulted in significant changes to the landscape character .THE LCA recommends that future developments of this LCT should be carried out sensitively and with particular reference to the rural nature of the landscape.

The LCA notes in relation to townscape and urban design that growth over recent years has resulted in 'a myriad of architectural styles' which are out of keeping with the historic built vernacular. It is recommended that future development relates to the existing vernacular in terms of building scales and materials.

#### *General Recommendations in the LCA include*

Diversify the urban fringe by developing mixed use amenity areas which will establish a landscape buffer thereby creating a transition between urban and rural areas

Define the urban fringe with planting of native species and mixed woodland to tie into the existing rural landscape.

#### *Landscape and Townscape*

Mountmellick is located in the heart of an agricultural landscape and serves a large agricultural hinterland. The town retains, to a degree, a relationship to the surrounding landscape. The surrounding agricultural lands, the River Dee, and rising ground to the south of the town are the important features shaping that connection. Extensive walled rear gardens attached to residences along the main streets provide an important green component to the town.

The River Owenass meanders along a south to north trajectory through the town and is another important natural feature lending particular identity to the town. A riverside walk runs along the river bank. Trees are intermittently scattered through the town. The town centre has as its primary focus an elegant Georgian Square O'Connell Square. . Heavy town centre traffic results in pedestrian /vehicular conflict. The town lacks comfortable and safe facilities for cyclists. Poor quality interventions have degraded the town centre. The Architectural Character Appraisal(ACA) refers to clutter , to a myriad of street furniture types, and paving materials and to over- prominent use of traffic marking and pedestrian barriers.

#### *Open Space and Amenities*

Open Space provision in Mountmellick comprises c. 50ha of public open spaces associated with residential areas, together with privately owned and operated sports grounds/ playing fields at Smith Fields. The town does not as yet have a town park and this objective set out in the Mountmellick Local Area Plan 2012 -2018 has not as yet been realised.

#### *Trees*

The council will not normally grant planning permission for developments which requires the felling of sound mature trees except where it is absolutely necessary in the interest of safety (both for the developer and for traffic) or the siting of development. The ACA notes that trees played important roles in defining the spatial character of Mountmellick. Most of

these trees no longer exist. They were presumably not replaced when they achieved maturity. Trees would have a notable positive impact on the public realm. The upgrading of O'Connell Square will clearly benefit from tree planting. The ACA also notes the value of mature garden trees to the character of the public realm.

#### **4.9.1 Key Issues for Landscape and Townscape**

- Enhancing the public realm
- Integrating blue and green infrastructure
- Encouraging re-use of buildings
- Sensitive and appropriate interventions relating to the River Owenass
- Enhancing permeability for pedestrians and cyclists

#### **4.10 Likely evolution of the environment in the absence of the Mountmellick LAP**

The SEA legislation requires that consideration is given to the likely evolution of the current baseline where implementation of the LAP does not take place. In the absence of the new LAP the environment would evolve under the regime of the existing LAP and the requirements of the Laois County Development Plan 2017- 2023.

Principal environmental issues in the absence of the LAP include:

- **Material Assets:** the LAP has integrated the most recently available information relating to flood risk management which is a key issue for the plan area; in the absence of the plan, the opportunity to fully integrated land use and flood risk considerations, as well as adaptation through measures such as green and blue infrastructure may not be fully realised.
- **Air Quality:** in the absence of the new LAP opportunities to promote greater permeability, enhanced measures relating to public transport, pedestrian and cycle movement may not be fully implemented.
- **Landscape:** the new LAP includes additional public realm measures that seek to improve connectivity between the different land uses and functions around the LAP area; in the absence of the new LAP, these enhancement measures would not be implemented.
- **Biodiversity, flora and fauna:** habitat surveys and green infrastructure considerations are not included in the current LAP, therefore enhancement measures for open spaces and opportunities to improve ecological connectivity, particularly with the River Owenass and Barrow would not be implemented.
- **Population and human health:** In the absence of mitigation associated with the LAP human health has the potential to interact with environmental problems identified under other parameters including biodiversity, flora and fauna, cultural assets, soil and geology, water resources, material assets, landscape and green infrastructure.
- **Population and Human health:** the existing LAP does not allocate measures relating to the Opportunity Sites identified in the plan area; in the absence of the new plan, these sites and associated measures in terms of potential new housing provision and open space would not be implemented.
- **Cultural Heritage, Material Assets, Landscape, Population, Climate Change and Biodiversity;** in the absence of the plan, measures including as part of the Vision for

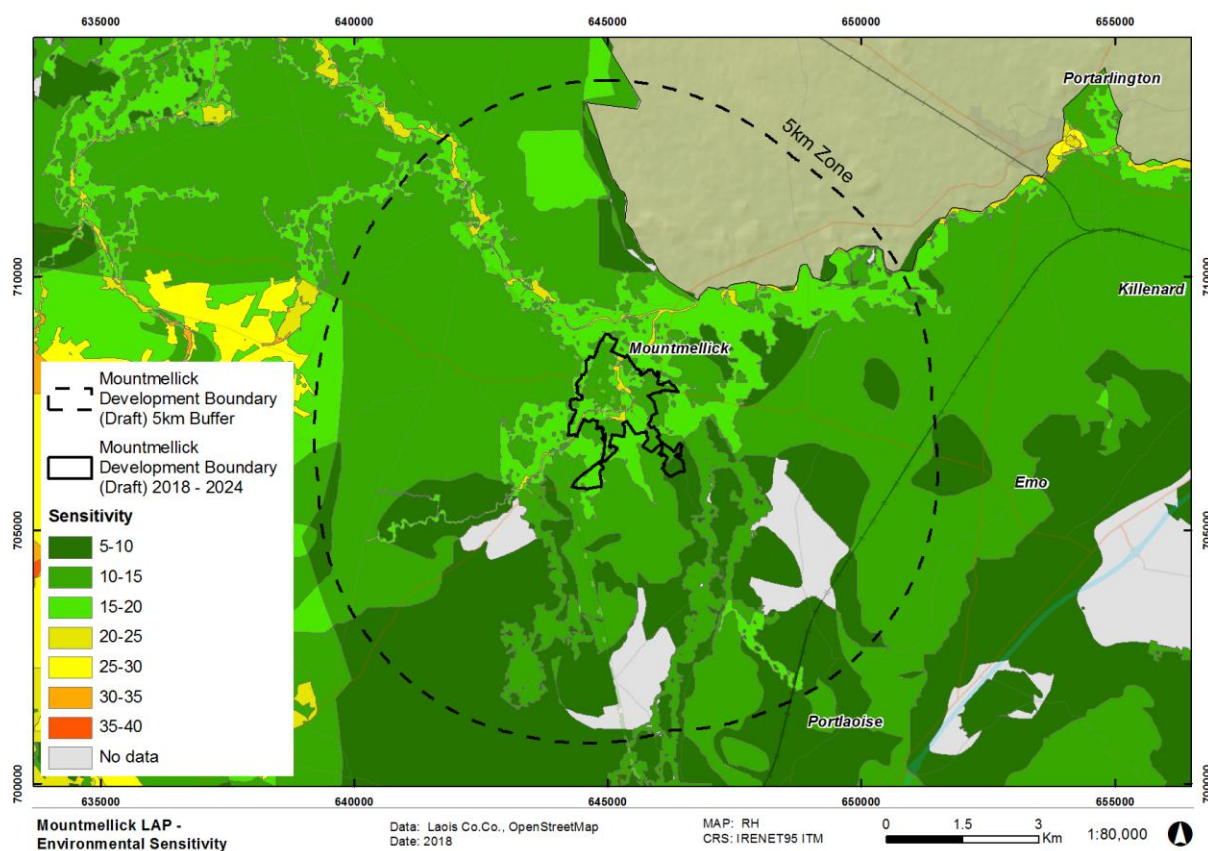
Mountmellick strategy would not be fully integrated to the plan and represent a lost opportunity to embed these proposals within the LAP framework.

#### 4.11 Interrelationship of the above components

In accordance with the SEA Directive, the interrelationship between the environmental parameters above must be taken into account. Although all such parameters may be considered interrelated and may impact on each other at some level environmental sensitivity mapping is commonly used to help identify areas of greater or lesser sensitivity. Figure 21 shows the overall environmental sensitivity for the plan area and sphere of influence, and follows the same approach (ie: ranking of environmental parameters) as that used in the Laois County Development Plan 2017-2023 SEA process.

By mapping key environmental layers (GIS) to produce an environmental sensitivities map, it provides a visual impression which can assist in identifying which areas within the Plan area experience the highest concentration of environmental sensitivities and consequently the areas potentially most vulnerable to potential environmental impacts from development. This can be a useful guide when considering the strategic options in relation to the plan during the early stages in the plan making process, and identifying areas that are of greater or lesser vulnerability. Figure 21 shows the environmental sensitivity map for the LAP.

**Figure 18 Environmental Sensitivity Mapping**



Reflecting the designations and the hydrological regime within the plan area, the areas of greatest environmental sensitivity are the areas designated for natural heritage, flood zones

and water courses. Based on this modeling, the areas of greatest sensitivity are the Rivers Owenass, Barrow and their associated floodplains.

In understanding this sensitivity map it is important to stress how these resources interact with each other; declining water quality will impact downstream on both water quality and species dependent on the high quality character of this water body. Inappropriate land uses, could, over time, generate soil impacts that in turn would contribute to declining groundwater resources with subsequent impacts on human health and biodiversity.

## 5 Strategic Environmental Objectives





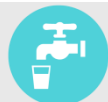


### 5.1 Introduction

The overall aim of the SEA is to facilitate environmental protection and to allow the integration of environmental considerations into the preparation and implementation of the Mountmellick LAP. To that end, the SEA process assesses the draft LAP as it evolves in terms of its environmental impacts, positive, negative, neutral, cumulative and synergistic and also in terms of duration ie: short, medium, long term, temporary, permanent, and secondary effects. This process highlights how improvements can be integrated into the LAP to increase its environmental performance and maintain environmental resources. The purpose of the SEA Objectives is to ensure that the assessment process is transparent and robust and that the LAP considers and addresses potential environmental effects.

These SEA Objectives are presented in this chapter and are developed into a monitoring programme in the form of targets and indicators which are presented in more detail in Chapter Nine Monitoring Programme. To facilitate consistency with the primary land use plan for the County and reflect data gathering requirements, these SEOs reflect where possible the SEOs developed for the SEA of the Laois CDP 2017-2023. Where necessary the SEOs are adapted to reflect particular environmental considerations for this Mountmellick LAP. . Where they differ from the above CDP SEA objectives, the text is shown in **italic bold** font. The results of this will be summarized in a table, called an evaluation matrix.

The Strategic Environmental Objectives are as follows:

**Table 6 Strategic Environmental Objectives for Mountmellick LAP**

SEA Topic	Strategic Environmental Objectives
<b>Biodiversity Flora and Fauna</b> 	<p>B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species</p> <p>B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species</p> <p>B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species</p>
<b>Population and human health Noise</b> 	<p>PHH1: To protect populations and human health from exposure to incompatible land uses <b><i>including adverse noise and air quality impacts</i></b></p>
<b>Water</b> 	<p>W1: To maintain and improve, where possible, the quality and status of surface waters</p> <p>W2: To prevent pollution and contamination of ground water</p> <p>W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)</p>
<b>Soil and Geology</b> 	<p>S1: To avoid damage to the hydrogeological and ecological function of the soil resource</p> <p><b><i>S2: To maximise the sustainable re- use of brownfield lands, and the existing built environment, rather than developing greenfield lands.</i></b></p>
<b>Material Assets</b> 	<p>M1: To serve new development with adequate and appropriate wastewater treatment</p> <p>M2: To serve new development with adequate drinking water that is both wholesome and clean</p> <p>M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse</p>
<b>Climate Change, Air Quality and Noise</b> 	<p>C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport</p> <p><i>C2: Ensure that the LAP proposals are adaptive to expected climate change patterns in line with Local Authority Adaptation Strategy Development Guidelines (EPA) as appropriate.</i></p>
<b>Cultural Heritage</b> 	<p>CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context</p> <p>CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context</p>

SEA Topic	Strategic Environmental Objectives
Landscape	L1: To minimise significant adverse visual impacts within and adjacent to the County <i>L2 To protect and enhance landscape character and quality within and adjacent to the LAP area.</i>
Interrelationships	<i>Maintain and improve the health of people, ecosystems and natural processes</i> <i>Actively seek to integrate opportunities for environmental enhancement</i>



## 6 Consideration of Alternatives

### 6.1 Introduction

One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative development scenarios, in this case the Mountmellick LAP 2018-2024.

These alternative development scenarios should meet the following considerations:

- Take into account the geographical scope, hierarchy and objectives of the plan –be realistic
- Be based on socio-economic and environmental evidence – be reasonable
- Be capable of being delivered within the plan timeframe and resources –be implementable
- Be technically and institutionally feasible – be viable

In developing, refining and assessing the alternatives for the LAP, the toolkit included in Developing and Assessing Alternatives in Strategic Environmental Assessment Good Practice Guidance (EPA 2015) was utilised.

In addition to the above, the Mountmellick LAP will function within the policy hierarchy established by national, regional and county strategic plans, as well as relevant legislation. This chapter presents the approach to considering and assessing the alternatives for the LAP. Section 6.2 presents the alternative scenarios. Section 6.3 explains how the assessment of alternatives was undertaken; Section 6.4 presents the evaluation of the alternatives for potential environmental effects. This in turn informed the selection of a preferred alternative for the LAP which is presented in Section 6.5.

### 6.2 Alternative Scenarios for LAP

In the case of the Draft Mountmellick LAP, possible alternatives include different land uses and scales of development will be examined.

1. **Continuation of Existing LAP land use zonings and policies/objectives (The Do-Nothing Scenario).** Continues with the existing LAP in its current context.
2. **Town centre consolidation:** This approach would be to focus explicitly on the densification of the town centre with intensification of land uses and focus on employee intensive sectors.
3. **Town centre consolidation and designation of future development lands in a tiered structure:** Promotion of development lands within the town centre for development and the designation of sequential areas where this type of development is considered appropriate in certain circumstances. It would also promote the development of neighbourhood centres to provide a level of retail services locally.

In considering these alternatives, regard was had the Preferred Alternative (Scenario 3 Balanced Growth, Strong Plans) identified for the Laois County Development Plan 2017-2023. Within this scenario, the main population centres for prioritised development would remain to be Portlaoise, Portarlinton, Mountmellick and Graiguecullen, this is where development both residential and commercial is most likely to happen in a controlled



manner. This fulfils the objectives of the current NSS, the RPGS and the new National Planning Framework in terms of achieving balanced regional growth which is of benefit to both the county and the region as a whole. Policies will be formulated to promote residential and commercial development within these areas

### **6.3 Assessment of potential effects for each alternative scenario**

This section presents the assessment of potential environmental effects for each Alternative Scenario. This is undertaken by assessing each alternative against the SEOs presented in Chapter 5 of this SEA ER. It is informed by the environmental baselines as well as the policy review.

The assessment of Alternatives is categorised as follows:

Positive	
Neutral	
Uncertain	
Negative	

.

#### 6.4 Summary Evaluation against SEOs

Strategic Environmental Objectives	Alternative 1: Continuation of Existing LAP land use zonings and policies/objectives (The Do-Nothing Scenario). Continues with the existing LAP in its current context	Alternative 2 Town centre consolidation: This approach would be to focus explicitly on the densification of the town centre with intensification of land uses and focus on employee intensive sectors.	Alternative 3 Town centre consolidation and designation of future development lands in a tiered structure.
<b>Biodiversity</b>			
B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species	Uncertain	Positive	Positive
B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	Negative	Negative	Neutral
B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species	Uncertain	Uncertain	Neutral
<b>Population and Human Health</b>			
PHH1: To protect populations and human health	Negative	Negative	Positive

from exposure to incompatible land uses <i>including adverse noise and air quality impacts</i>			
<b>Water</b>			
W1: To maintain and improve, where possible, the quality and status of surface waters	Neutral	Neutral	Positive
W2: To prevent pollution and contamination of ground water	Neutral	Neutral	Neutral
W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)	Uncertain	Positive	Positive
<b>Soil and Geology</b>			
S1: To avoid damage to the hydrogeological and ecological function of the soil resource	Neutral	Positive	Positive
<i>S2: To maximise the sustainable re-use of brownfield lands, and the existing built environment, rather than developing greenfield lands.</i>	Neutral	Positive	Positive
<b>Material Assets</b>			
M1: To serve new development with adequate and appropriate wastewater treatment	Positive	Positive	Positive
M2: To serve new development with adequate drinking water that is both wholesome and clean	Positive	Positive	Positive
M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	Uncertain	Positive	Uncertain
<b>Climate and Air Quality</b>			
C1: To reduce travel related emissions to air and to	Uncertain	Uncertain	Positive

encourage modal change from car to more sustainable forms of transport			
<i>C2: Ensure that the LAP proposals are adaptive to expected climate change patterns.</i>	Negative	Uncertain	Positive
<b>Cultural Heritage</b>			
CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	Positive	Positive	Positive
CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context	Positive	Positive	Positive
<b>Landscape</b>			
L1: To minimise significant adverse visual impacts within and adjacent to the County	Neutral	Neutral	Positive
<i>L2 To protect and enhance landscape character and quality within and adjacent to the LAP area.</i>	Uncertain	Uncertain	Positive
<b>Inter-relationships</b>			
<i>Maintain and improve the health of people, ecosystems and natural processes</i>	Negative	Uncertain	Positive
<i>Actively seek to integrate opportunities for environmental enhancement</i>	Negative	Uncertain	Positive

## 6.5 Preferred Alternative

From the above Table it can be seen that the comparative assessment of Alternatives shows that Alternative 3 provides for the most positive effects when assessed against the SEOS.

This alternative provides for the promotion of development lands within the town centre for development and the designation of secondary and edge of centre areas where this type of development is considered appropriate in certain circumstances. It would also promote the development of neighbourhood centres to provide a level of retail services locally.

It acknowledges the need to consolidate Mountmellick through the town centre vitalisation whilst helping to meet the key objectives of the LAP.

Therefore, the preferred alternative was developed by the planning team and others having regard to the key requirements of:

- Environmental effects identified through the SEA consideration of alternatives, and
- Objectives of the Mountmellick LAP including social and economic effects of the development
- National Policy documents.

By complying with appropriate mitigation measures - including those which have been integrated into the LAP - potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

## **7 Assessment of Significant Effects**

### **7.1 Introduction**

The purpose of this section of the Environmental Report is to predict and evaluate as far as possible the environmental effects of the LAP.

SEA is an iterative process and the LAP has taken consideration of environmental issues raised during the SEA process to date. These issues have been incorporated into the Draft LAP and the principal purpose of this chapter is to discuss the evaluation of these. The discussion of likely impacts is grouped around each of the following environmental parameters as described in Chapter Four.

- Population & Human Health
- Biodiversity, Flora & Fauna
- Water
- Soil & Geology
- Climatic Factors and Climate change
- Cultural Assets
- Material Assets
- Landscape
- In-combination and cumulative effects.

The individual evaluation of relevant requirements contained in the LAP is presented in Annex A. The identification of impacts through the evaluation matrix and discussion of significant impacts detailed below, in turn informs the development of mitigation measures presented in Chapter Eight, Mitigation Measures. The table below identifies the significant environmental issues that were identified for all alternatives considered through the SEA process.

### **7.2 Population and Human Health- Significant Effects.**

Land use planning impacts on the everyday lives of people and can either hinder or help promote healthy sustainable environments and communities. For example the provision of safe walking routes, cycle-ways, parks, playgrounds, safe routes to school, public transport facilities, etc. result in direct and indirect health benefits and allow for healthier transportation choices to be made by communities above private motor car. Both the Key Plan objectives and those included in *Movement and Transport such as TM05 and TM06* create positive direct effects on this parameter due to promotion and design of pedestrian and cycle friendly movement and accessibility to public transport options. The zoning of lands, and promotion of employment opportunities (ED01, ED 02 and ED03 for example) and services in the town also will contribute to reduced commuting patterns if successfully implemented; in turn this gives rise to positive interactions with Population and Human health SEOs.

The LAP emphasises the need to integrate land use and transportation. It supports town centre viability, and focuses on infill and backlands redevelopment as well as reuse of existing buildings.

The maintenance, protection and enhancement of water quality are important and are closely allied to human health generally. The LAP provides for phased development with infrastructure provided in advance; see *Key Infrastructure* Strategic Aims and policies such as *KIP1* and . An additional mitigation measure is recommended for *KIP5* to reflect the Scoping Recommendation from the EPA. The provision of buffer zones for watercourses as detailed in Objective *NH011* will help protect riparian zones and water quality.

The promotion of sustainable development by balancing complex sets of environmental, social and economic goals in planning decisions can deliver positive effects for population and human health. The LAP promotes the town centre, brownfield development, integrated transport and land use and environmental enhancement measures. Overall, the LAP is likely to improve the status of the SEO's on population and human health.

### **7.3 Biodiversity, Flora and Fauna- Significant Effects**

The promotion of compact, sustainable settlements, reuse of existing buildings and infill sites, integrating land use and transport, green and blue infrastructure, ecological corridors and buffer zones for watercourses all strengthen overall protection of biodiversity resources and the Biodiversity SEOS.

Particular measures identified as generating positive effects on Biodiversity SEOS include, buffer zones for water courses (*NH011*) which allows for 30 to 50m for greenfield lands, Green Infrastructure (*NH02*) and

Infrastructure has the potential to generate adverse impacts on biodiversity, with key potential impacts relating to disturbance, disruption, fragmentation and loss of habitats. However, the focus on backfill lands, reusing existing buildings and identification of town centre Opportunity Sites, reference to relevant guidelines, and promotion of green/blue infrastructure and buffer zones does assist in reducing the overall adverse impacts and many impacts are identified as being addressed through recommended mitigation.

Indirect and cumulative impacts are identified for biodiversity in the event of damage to soil and water resources associated with development activities. Water pollution or surface water run off could give rise to negative effects on water quality and streams/ rivers within the lands with subsequent adverse effects on biodiversity.

Flood risk and flood events remain a challenge for the LAP and adverse effects can arise in the event of extreme flooding through soil contamination, inundation of soil and increased siltation of surface waters.

Therefore, a number of mitigation measures are recommended for the above. Mitigation measures are recommended for a number of policies and objectives to further enhance biodiversity protection including *NH05* and *NH06* as well as for the Opportunity Site, the Maltings.

### **7.4 Water - Significant Effects**

Potential effects on water resources (and frequently biodiversity) in the absence of mitigation include:

- A reduction in water quality in groundwater, springs and watercourses associated with the construction phase of new developments (short to medium term impacts);
- Surface water runoff from impermeable surfaces leading to reduced water quality in groundwater springs or surface waters affecting qualifying habitats and species downstream (impacts can range from short to long term);
- Changes in the flow rate of watercourses arising from an increased footprint of impermeable surfaces within the Plan area - increasing the extent of impermeable surfaces will result in a decrease in infiltration and an increase in runoff;
- Inadequate wastewater treatment resulting in pollution of groundwater springs or surface watercourses;
- Generally, land use practices can result in water quality impacts and whilst surface water impacts may be identified quickly, impacts to groundwater can take much longer to ascertain due to the slow recharge rate of this water resource;
- Interruptions in hydrological regimes, particularly in wetlands that can have direct impacts on biodiversity, and
- Water quality impacts can also have human health impacts in the case where bacterial or chemical contamination arises.

The LAP includes a range of provisions and measures to address and minimise the above effects, including:

- Green and blue infrastructure, buffer zones for watercourses (*NH011*), invasive species control measures (*NH012*) as detailed in the *Natural Heritage chapter*. More positive, long term impacts are associated with these measures.
- The recognition of the Water Framework Directive and roles and responsibilities for same, currently act as a key driver toward long term positive impacts for water quality and water management generally;
- The requirement for Sustainable urban Drainage systems (SUDs), green and blue infrastructure and flood risk management also create positive effects on Water SEOs.
- By encouraging infill development, and reuse of existing buildings, the potential for increased greenfield land requirements are reduced; though not fully avoided.
- The delivery of critical infrastructure (including water and wastewater services) in tandem with built development is also supported through this LAP; this will allow for a phased and managed approach to service delivery and capacity of WWTP in the plan area.

Notwithstanding the above provisions that will minimise adverse effects, at LAP level Infrastructural and built development may adversely affect water resources due to potential impacts on water quality; to provide for greater protection of water resources, additional mitigation measures are recommended.

## **7.5 Soil and Geology - Significant Effects**

Soil quality and function may be enhanced through particular measures associated with water quality and land use and achieving the Water Framework Directive Objectives. The quality of groundwater is directly related to soil quality and land use, and abstraction of geological and soil resources can also affect the water table over time.

The most significant potential soil and geology effect identified relates to new built development on greenfield lands. Soil sealing and increased risk of surface run off are



addressed largely by identification of brownfield opportunity sites; also reuse of existing buildings creates positive effects for Geology and Soil SEOs. Additional measures in relation to control and management of invasive species, (*NH012*) will assist in addressing and controlling this effect.

### **7.6 Climatic Factors and Climate Change - Significant Effects**

Overall the LAP will contribute positively to climate change adaptation through the following:

- Integration of land use and transport (Transport and Movement Strategic Aim and *TM02* and *TM 05*);
- Promotion of public and non- vehicular transport (*TM06*);
- Design measures to enhance walking and cycling around the LAP (*TM05* and *TM 08*);
- Interventions to reduce carbon emissions for the N80 (*TM07*)
- Blue and green infrastructure giving rise to increased surface water storage and potential carbon sequestration (*NH02*)
- Retention of hedgerows (*NH03*) and provision of new planting regimes to further enhance carbon sinks (existing and new),
- Reuse of existing buildings (*TCRP3*) and infill/brownfield development (identification of Opportunity Site), and
- Longer term positive effects in relation to air quality, population and human health and water.

### **7.7 Cultural Assets - Significant Effects**

Overall the impacts of the LAP are long term and positive in relation to cultural heritage due to the recognition of the value of cultural heritage and the range of cultural heritage features including built heritage, natural heritage and landscapes.

Potential cultural heritage impacts arise once more in relation to built development, though existing development management control and policies/objectives of the LAP will ensure sufficient protection and oversight.

The *Built Heritage* Chapter contains specific measures to minimise adverse effects and promote reuse of architectural features for example: *BH01* to *BH014* and policies *BHP1* and *BHP2*. In addition to protected built heritage, the promotion of town centre (Town Centre revitalisation strategic aims, objectives and policies), use of existing buildings (*TCR P7*) and addressing vacant sites (*TCR P6* and *HO5*) all contribute to positive longer term effects on Cultural heritage SEOs.

### **7.8 Material Assets - Significant Impacts**

For transport, provisions including in the *Movement and Transport* chapter are of particular relevance. These are identified as generating positive impacts for a number of SEOs including population and human health, air quality and climate and sustainable transport. Several transport measures (in particular public transport and walking and cycling) create positive impacts as they support more sustainable transport options with cumulative and in combination positive impacts relating to human health, biodiversity and air quality.

Objectives and policies which promote employment within the town, and key infrastructure developments support the Material Assets SEOs as they can reduce the current unsustainable commuting patterns in the LAP, and promote integration of land use and transport; as well as providing for service led development. Examples include *ED01, ED03, ED04 and KI01*. These promote employment and enterprise within the LAP, as well as identification of community and educational facilities (*H06, CSC01 and CSC02*) can promote a model shift for those living within and close to the lands; this generates positive direct permanent impacts for sustainable transport if it reduces car dependency and increases viability of public transport options. Indirect long term positive effects are identified for Population and Human health SEOs also.

Water supply and wastewater capacity and demands are addressed in conjunction with Irish Water. The key element in relation to this is ensuring the implementation of the LAP is in line with capacity to treat wastewater and water supply services. Policies and objectives in *Key Infrastructure* Chapter all strengthen and reinforce these issues by ensuring provision of critical services infrastructure on a plan led basis.

Additionally, provision is made in the LAP for water conservation measures including awareness raising (*KIP6*) and rainwater harvesting (*KIP7*).

Mitigation measures are recommended for a number of Key Infrastructure policies /objectives to strengthen environmental protection and align with plans such as the Water Framework Directive.

## **7.9 Landscape - Significant Effects**

Green and blue infrastructure provisions as detailed in Natural Heritage and objectives such as *NH02*, as well as buffer zones and contribute to positive landscape effects associated with the implementation of the LAP. In particular, public realm key objectives (*TCR 06*) are very positive in relation to townscape and landscape SEOs as they address public realm enhancement.

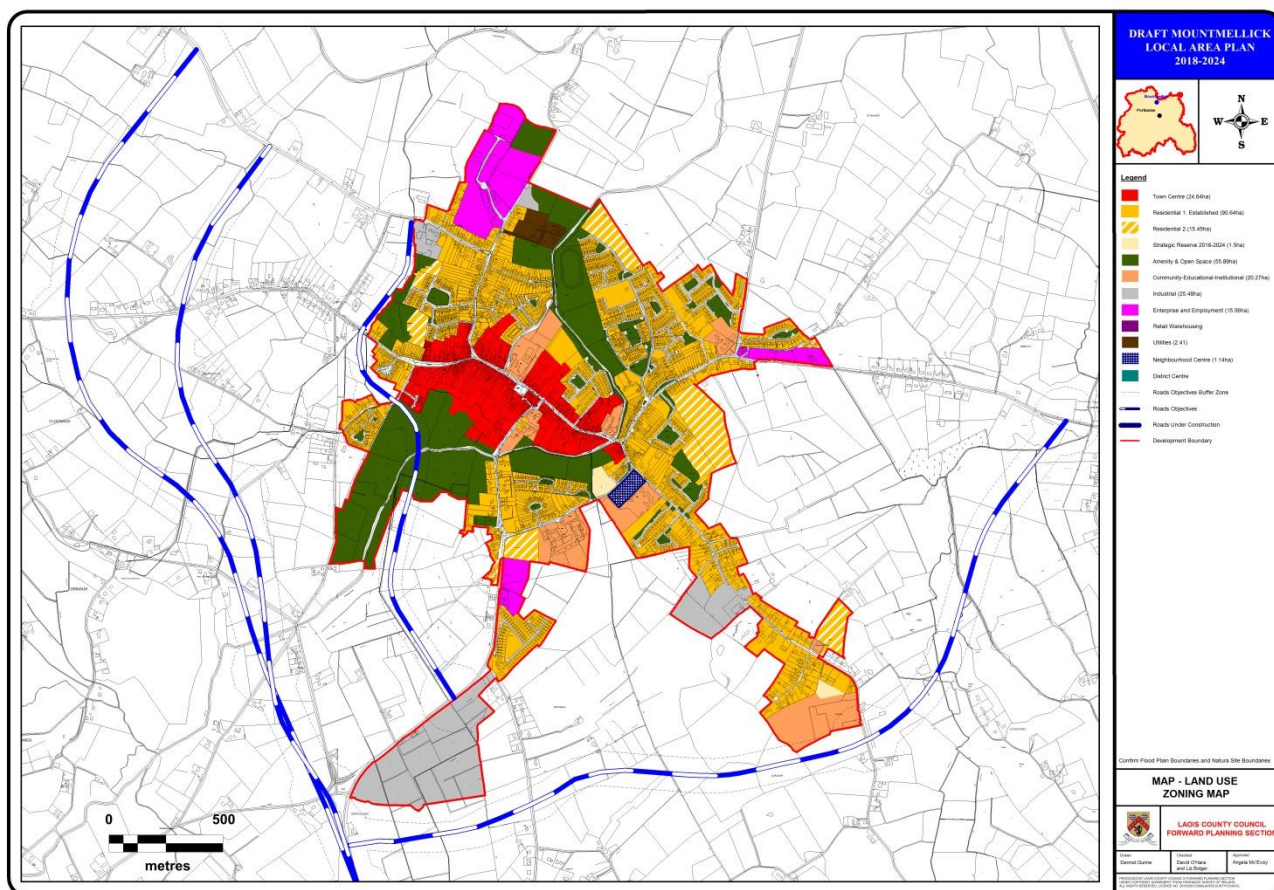
Additional green and blue infrastructure measures and enhanced walking and cycling, as well as the reuse of existing buildings and vacant sites contribute positively to landscape parameters.

## 7.10 Land use zonings – Significant Effects

The Table below presents the landuse zonings and amount of lands zoned

**Table 7 Landuse Zonings and Amounts**

Landuse Zoning	Amount
Town Centre	24.64
Residential R1 –Established	90.64
Residential 2	15.45
Strategic Reserve 2018-2024	1.5
Amenity and Open Space	55.89
Community-Educational-Institutional	20.27
Industrial	25.48
Enterprise and Employment	15.56
Utilities	2.41
Neighbourhood centre	1.14



**Figure 19 Land use zonings Mountmellick LAP**

### **7.10.1 Discussion**

The main elements of the draft Plan with the potential to result in such impacts relate to the zoning of development land-use in undeveloped sites close to or part of European Sites, the development of infrastructure and the pressures associated with the adequate supply of water throughout the lifetime of the Plan.

The general impacts (in the absence of mitigation measures) to the qualifying interests of European Sites associated with elements of the Plan will include:

- A reduction in water quality in surface waters associated with the construction phase of new developments, surface water runoff from impermeable surfaces and the use of the Rivers Owenass and Barrow as a tourist and amenity attraction.
- Inadequate wastewater (i.e. sewer) collection system resulting in pollution of surface watercourses and groundwaters.
- Unsustainable abstraction of water from surface and groundwaters leading to the drawdown of baseline water levels.
- Disturbance to qualifying habitats and species from increased human presence particularly associated with tourism and amenity activity on the River Barrow.

The Natura Impact Report that accompanies this SEA ER provides further information in relation to the above.

The following section discusses the impacts associated with each zoning proposed for the plan area.

### **7.10.2 Town Centre**

The town centre zonings are concentrated in the existing centre of Mountmellick, confirming existing and established land uses and an area of 24.64ha are provided for within this zoning.

Whilst there is generally little greenfield land identified for this zoning, many of the town centre structures are established a considerable time so have a number of backlands or areas that could be expanded to the rear of the town centre. For much of this zoning, the lands are established urban areas; based on a review of aerial photography, some of the backlands associated with the town centre, support scrub/mature treelines and policies such as *NH 03*, *NH 04* and *FM 10* would apply. This is important as the most easterly of this zoning are backlands/gardens that adjoin the Owenasss River.

Positive and consistent with all SEOs, reflects national policy, core strategy and promotes consolidation of town centre. Subject to adherence and implementation of relevant policies and measures including *NH 01*, *FM 07* and *FM 08* positive long term impacts are identified in particular for population and human health, material assets, Landscape, Cultural Heritage and Soil and Geology SEOs.

The purpose of this zoning is:

- to enhance the vitality and viability of the town centre through the promotion of retail, residential, commercial, office, cultural, public facilities and other uses appropriate in the urban core.
- To prioritise the development of town centre lands in order to consolidate the development of the town.
- To encourage the use of buildings and backlands, in particular the full use of upper floors, preferably for residential purposes.

Subject to adherence and implementation of relevant policies and measures including *NH01*, *FM07* and *FM08* positive impacts are identified for population and human health, material assets, Landscape, Cultural Heritage and Soil and Geology SEOs.

### **7.10.3 Residential Zonings**

The Core Strategy for County Laois is set out under Section 2 of the Laois County Development Plan 2017 – 2023. The LAP identifies approximately 15.45 ha. of residentially (R2) zoned land, located within and adjacent to established residential areas within the town. Over the lifetime of the LAP, priority for residential development should be given to the development of these lands to consolidate the built up area of the town.

Currently capacity exists in the Foul Sewer Network, Waste Water Treatment Plant and Public Water Supply.

Most of the impacts identified for residential development zones are identified as being mitigated at project level through development management. Positive impacts were identified for population and human health, plus a number of material assets such as flood risk and sustainable transport. Seven areas are identified for this land use zoning, and all are adjacent to existing residential development. The largest of these is land in the eastern plan area and a review of aerial photography shows the lands characterised by two large tillage fields and with hedgerows. Another area in the north east of the plan area is adjacent to the River Owenass, so key policies and objectives relating to Natural heritage and Flood management would apply.

Most of the impacts identified for residential development zones are identified as being mitigated at project level through development management. Positive impacts were identified for population and human health, plus a number of material assets such as flood risk and sustainable transport.

### **7.10.4 Amenity and Open Space**

Large areas particularly adjacent to the River Owenass are zoned for open space in the LAP. These reflect areas of flood risk and also provide a buffer area around the river as it flows through the town centre. A considerable extent of the open space zoning in the southwest plan area relates to flood zones and is characterised by agricultural farmland and

hedgerows. Potential Impacts identified with such zonings include disturbance to species through increased access and accompanying noise or human presence. The Objective for this zoning in the LCC plan is *to preserve, provide for and improve active and passive recreational open space*. Other areas of open space in the LAP commonly relate to existing open green space associated with residential development.

Generally, impacts are positive for a range of parameters including soil and geology, population and human health, flood risk, water quality and landscape. The opportunities to enhance these areas through public realm improvements and/or green and blue infrastructure measures contribute positively longer term to biodiversity, water and climate change adaptation SEOs also.

#### **7.10.5 Community/Educational/Institutional**

These lands are largely concentrated close to the existing town centre and the Land use objective for this zoning is: *To protect and provide for local neighbourhood, community, ecclesiastical, recreational and educational facilities*.

Again on undeveloped lands, negative impacts are identified for biodiversity and soil due to development on greenfield sites, but for many SEOs these can be mitigated through development management and relevant policies and objectives in the draft Plan. Positive impacts are identified for population and human health, transport and air quality for these zonings. In all cases the areas zoned under this land use confirm existing land use (eg: educational, or the cemetery) and zone land adjacent to these existing landuses.

Other undeveloped lands zoned for this use are close to the town centre where possible to facilitate and promote town centre viability and easy access to these facilities for inhabitants of the town.

#### **7.10.6 Industrial**

25.48 ha are zoned for Industrial use. This in part reflects the historical land uses within the town, as well as confirming existing industrial land use, for example in the northwest of the plan area at Chapel Street.

A large area is zoned in the southwest of the plan area, currently characterized by agricultural grassland, with drainage ditches, hedgerows and dispersed farm houses; these lands are adjacent to the N80. The range of impacts will vary according to the potential use; however for most of the SEOs, the impacts are considered to be addressed through mitigation at development management level.

Mitigation measures in the plan relating to retention of hedgerows, additional tree planting and green infrastructure should be considered in relation to development on these lands.

### **7.10.7 Enterprise and Employment**

15.56 ha are zoned for this land use. These are all located on the perimeter of the town boundary and the objective of this zoning is *To accommodate commercial and enterprise uses that are incapable of being situated in a town centre location, including low input and emission manufacturing, campus style offices, storage uses, wholesaling and distribution, commercial services with high space and parking requirements.* Business Park type development shall be provided in high quality landscaped campus style environments, incorporating a range of amenities.

The land use zoning partly confirms existing landuse; the area in the northwest of the plan area extends this landuse zoning; as this area lies between the River Owenass to the east and River Barrow to the north, application of appropriate mitigation measures are required. For example, *FM 10, NH 011 and NH 09.* Subject to implementation of appropriate mitigation measures, no significant adverse effects are identified for this zoning.

### **7.10.8 Utilities**

One area in the LAP is zoned for utilities and this relates to the wastewater treatment plant. This confirms an existing land use.

### **7.10.10 Neighbourhood Centre**

A small area of 1.14ha is zoned for General Business.  
No interactions with SEOs are identified.

## **7.10 In-combination and cumulative significant effects**

This section of the Environmental Report provides an outline of the potential cumulative effects on the environment as a result of implementation of the LAP. Figure 21 presented overall environmental sensitivity mapping for the LAP.

Cumulative effects are referred to in a number of SEA Guidance documents and are defined in the EPA Sea Process Checklist as *“effects on the environment that result from incremental changes caused by the strategic action together with other past, present and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space”*<sup>10</sup> These effects can be insignificant individually but cumulatively over time and from a number of sources can result in the degradation of sensitive environmental resources. The assessment of cumulative effects is a requirement of the SEA Directive (2001/42/EC).

The 2004 Guidelines produced by the DECLG outlines that the SEA process is in a good position to address cumulative effects for which the Environmental Impact Assessment process is not equipped to deal with. Due to the strategic nature of the SEA process a forum is provided in which cumulative effects can be addressed. The EPA is presently undertaking a study in relation to cumulative effects and it is anticipated that a draft Cumulative Effects – Best Practice Guidance Document will be available soon to SEA practitioners.

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<sup>10</sup>(EPA SEA Process Checklist (2011)).

The EPA Strive Report 2007-2013 on 'Integrated Biodiversity Impact Assessment' describes cumulative effects as incremental effects resulting from a combination of two or more individual effects, or from an interaction between individual effects – which may lead to a synergistic effect (i.e. greater than the sum of the individual effects), or any progressive effect likely to emerge over time.

The SEA ER of the Laois CDP 2017-2023 provided a cumulative assessment of national level plans and programmes as they relate to the CDP; as this are more appropriately assessed at County level, they are not included within this cumulative impact assessment; rather the focus is on regional/locals plans and projects, as these are considered to be the most appropriate scale and potential relevance to the plan area and zone of influence.

### 7.10.1 Potential cumulative effects from other plans and projects

**Table 8 Potential cumulative and in combination effects**

Plan	Comment	Cumulative effects
<b>Water Services Strategic Plan</b>	Ireland's first integrated national plan for the delivery of water services, the Water Services Strategic Plan (WSSP) addresses six key themes and was adopted in 2015. It was subject to full SEA and AA and concluded that Overall, the assessment has identified that the implementation of the draft WSSP is likely to have positive effects on the majority of the SEOs that have been used in the assessment to help characterise the environmental effects of the WSSP and no significant negative effects were identified.	No in-combination impacts were predicted as a result of implementation of the Plans
<b>Neighbouring County Development Plans</b>	These plans were subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified.	No in-combination impacts were predicted as a result of implementation of the Plans
<b>River Basin District Management Plans.</b>	The second cycle of these plans (2015 to 2021) are currently in preparation and will provide management measures to achieve WFD Objectives up to 2021. This plan is undergoing both SEA and AA and is in draft form.	No in-combination impacts are predicted as a result of implementation of the Plans
<b>CFRAMS Study</b>	The Eastern CFRAM study has been commissioned in order to meet the requirements of the Floods Directive, as well as to deliver on core components of the 2004 National Flood Policy, in the Eastern district.	Flood Risk Management is being addressed in the LAP and in conjunction with the OPW. No adverse effects identified.
<b>Laois Local Economic and</b>	The plan supports a range of high level goals, actions and objectives. It was subject to SEA and AA Screening, and was developed with support	The plan is consistent with the CDP and no adverse in combination or



Plan	Comment	Cumulative effects
<b>Community Plan 2016-2021</b>	from the Forward Planning Section.	cumulative effects are identified.
<b>Laois Heritage Plan 2014-2019</b>	<p>Key objectives as follows:</p> <p>Objective 1: Increase understanding of the heritage of Laois</p> <p>Objective 2: Record the heritage of Laois</p> <p>Objective 3: Protect and promote active conservation of the heritage of Laois</p> <p>Objective 4: Promote community participation in heritage plans and projects and</p> <p>Objective 5: Promote enjoyment and accessibility of heritage sites</p>	Positive interactions with SEOs in relation to this plan; no adverse cumulative effects identified.
<b>Irelands Ancient East and Laois Tourism Strategy 2018-2023</b>	<p>A range of proposed actions and projects and targets in terms of aligning with the Ancient East and increasing tourism numbers form part of this strategy. Key project identified for Mountmellick relates to the Laois Town Experience Product - the identification of a strong theme built on a rich bank of heritage and stories associated with the towns. The subsequent phases will focus on engaging the local tourism industry and communities to build on the opportunity it can present.</p> <p>Mountmellick would be associated with the history of the Quakers in this plan.</p> <p>A secondary objective relate to promoting the Slieve Blooms and Barrow Blueway potential. The town is not identified as such within these actions on the rivers, lakes and canals.</p>	<p>The Town Experience product is not identified as giving rise to adverse in combination /cumulative effects.</p> <p>Proposals on the Barrow and relating to the Slieve Bloom if they were to significantly increase disturbance along these habitats may give rise to adverse in combination effects. However, the provisions of the Laois CDP 2017-2023 are considered appropriate to address any potential in combination effects at this juncture. Policies TRANS 06 and NHO8 apply in particular.</p>

## 8 Mitigation Measures

### 8.1 Introduction

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

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

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

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

Many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated assessments including the Appropriate Assessment, Strategic Flood Risk Assessment. Proposals for development which are deemed contrary to the environmental objectives contained in the Laois CDP 2017-2023 and Mountmellick LAP 2018-2024 will not normally be permitted, and if permitted, not without the appropriate site and development specific mitigation measures.

There were also a number of policies/objectives associated with the LAP that were identified as potentially generating significant adverse impacts on the environment, and suggested rewording of these proposals are put forward for consideration and recommended for inclusion in the draft LAP.

This chapter is structured as follows:

- 8.2 Environmental Protection Measures in the Laois County Development Plan 2017-2023
- 8.3 Mitigation measures –amendment of text in the Mountmellick LAP

## 8.2 Existing Environmental Policies and Objectives in the Laois County Development Plan 2017-2023

Ref	Text
<b>CS13</b>	Contribute towards compliance with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (85/337/EEC, as amended) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.
<b>CS14</b>	Ensure that lower levels of decision making and environmental assessment consider the sensitivities identified in the SEA Environmental Report that accompanies the Development Plan, Laois County Development Plan 2017-2023
<b>CS15</b>	Assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level.
<b>CS10</b>	Provide for active and efficient use of derelict sites, vacant premises, neglected lands, disused (brownfield) or underused lands that are zoned and served by existing public infrastructure and facilities, to consolidate the urban form, improve streetscapes, support housing delivery and smarter travel as well as strengthen the vitality and vibrancy of urban areas, by way of the development management process and other mechanisms including the imposition of levies under the Urban Regeneration and Housing Act 2015 and Derelict Sites Act 1990, the preparation of opportunity site briefs and the consideration of incentives in the preparation of Development Contributions Scheme(s).
<b>CS11</b>	Encourage the re-use of the existing building stock in an appropriate manner in line with standard conservation principles and the Council's policy on sustainable development in order to integrate proposed development into the existing streetscape and to reduce potential construction and demolition waste.
<b>NRA 1</b>	Encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following: i. Provision of open space amenities; ii. Sustainable management of water; iii. Protection and management of biodiversity; iv.

Ref	Text
	Protection of cultural heritage; v. Protection of protected landscape sensitivities
<b>ECN13</b>	Direct labour intensive enterprises to town centre/edge of centre locations and brownfield sites and favour brownfield sites over greenfield sites for general enterprise development in the interests of sustainability and orderly development
<b>ECN17</b>	Seek to provide opportunities for highly-skilled outbound commuters to work locally through local employment opportunities, tourism opportunities, the development of an e-working centre or working-from-home arrangements facilitated by high-speed broadband in the interests of sustainable economic development, smarter travel and quality of life considerations
<b>EC 18</b>	Support community initiatives to foster stronger engagement between commuters and their local towns and villages
<b>ECN21</b>	Encourage the maintenance of town/village centre buildings and improve the quality of the public realm in town/village centres making them more attractive and safe to locals and visitors, as well as more pedestrian and cycle-friendly. Prepare Public Realm Strategies, where appropriate, liaising closely with residents, visitors and other relevant stakeholders
<b>TRANS 6</b>	Ensure that all proposed plans or projects relating to transportation (including walking, cycling, rail, bus and roads) and any associated improvement works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening to ensure there are no likely significant effects on the integrity (defined by the structure and function) of any Natura 2000 site(s) and that the requirements of Articles 6(3) and 6(4) of the EU Habitats Directive are fully satisfied. Where the plan or project is likely to have a significant effect on a Natura 2000 site, or there is uncertainty with regard to effects, it shall be subject to Appropriate Assessment. The plan or project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where in the absence of alternative solutions, the project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Articles 6(3) and 6(4) of the EU Habitats Directive.
<b>PWS 1</b>	Protect both ground and surface water resources and to work with Irish Water to develop and Implement Water Safety Plans to protect sources of public water supply and their contributing catchment
<b>WS4</b>	Work with IW on developing and upgrading the water supply schemes so as to ensure an adequate, resilient, sustainable and economic supply of piped water meeting targets in relation to quality as set out in the IWs WSSP is available for domestic, commercial, industrial, fire safety and other use for the sustainable development of the county in accordance with the settlement structure identified in this Plan.

Ref	Text
	All Capital projects and programmes associated with the provision of water supply or wastewater and surface water treatment must be assessed in accordance with Article 6 of the Habitats Directive in order to avoid adverse impacts on Natura 2000 sites
<b>WS30</b>	Protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the County and control development in a manner consistent with the proper management of these resources, in accordance with the County Source Protection Zones
<b>WS31</b>	Ensure the protection of groundwater dependant Natura 2000 sites which rely on the continued supply of groundwater resources to secure the key environmental conditions that support the integrity of the site and through the protection of groundwater standards as defined by the relevant River Basin Management Plan. Where no detailed Plan for protection of a specific source is available wastewater discharge will not be permitted within a radius of 300 metres of that source;
<b>WS32</b>	Ensure the protection of groundwater dependant Natura 2000 sites which rely on the continued supply of groundwater resources to secure the key environmental conditions that support the integrity of the site and through the protection of groundwater standards as defined by the relevant River Basin Management Plan. All Capital projects and programmes associated with the provision of water supply or wastewater and surface water treatment must be assessed in accordance with Article 6 of the Habitats Directive in order to avoid adverse impacts on Natura 2000 sites;
<b>WS33</b>	Consult as necessary with other competent authorities with responsibility for environmental management; WS34 Comply with the provisions of the Water Framework Directive 2000
<b>WS35</b>	To assist and co-operate with the EPA and the Lead Authorities in the continued implementation of the EU Water Framework Directive
<b>WS36</b>	To ensure, through the implementation of the River Basin Management Plans and their associated Programmes of Measures and any other associated legislation, the protection and improvement of all drinking water, surface water and ground
<b>FD1</b>	Ensure that flood risk management is incorporated into the preparation of all local area plans through the preparation in accordance with the requirements of the Planning System and Flood Risk Management-Guidelines

Ref	Text
	for Planning Authorities (DoEHLG 2009);
<b>CC1</b>	Support and facilitate the national objectives for climate adaptation and will work with the EPA, the Eastern and Midland Regional Assembly and adjoining planning authorities in implementing future guidance for climate change proofing of land use plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012);
<b>CC2</b>	Prepare a Climate Change Adaptation plan following the adoption of the Development Plan, in line with relevant Government guidelines;
<b>ES1</b>	Facilitate and promote the implementation of the Eastern-Midlands Regional Waste Management Plan 2015-2021 within its functional area
<b>ES11</b>	Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents)
<b>ES18</b>	Encourage the maintenance of dark skies in rural areas and limit light pollution in urban and rural areas
<b>ES21</b>	Ensure good soil quality throughout the county by requiring developments of a certain nature (as specified in the relevant environmental legislation) to carry out assessments of the impact of the development on soil quality;
<b>ES22</b>	Recognise the significant impacts of land use, land use change and sludge generation and treatment in relation to carbon loss/stocks and recognise the function of soil assessment and management, carbon sinks, carbon sequestration and restoration of degraded lands in plan led settlement and development strategies;
<b>EN4</b>	Promote and encourage the development of energy from renewable sources such as hydro, bio-energy, wind, solar, geothermal and landfill gas subject to compliance with normal planning and environmental criteria and the development management standards contained in Section 8;
<b>BH 6</b>	Encourage the full use of Protected Structures, subject to the compatibility of the use with the character of the Protected Structure
<b>BH11</b>	Consider favourably development proposals within an ACA that would either preserve or enhance the special character or appearance of the ACA. In considering applications for changes of use, the Council will be concerned with maintaining the character of that area.

Ref	Text
<b>ARCH5</b>	Ensure protection of Zones of Archaeological Potential, as identified in the Record of Monuments and Places;
<b>BIO1</b>	Comply with the objectives of the National Biodiversity Plan 2011-2016 (and any future National Biodiversity Plan which may be adopted during the period of this plan) as appropriate to County Laois;
<b>BIO2</b>	Contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Ramsar Sites; Wildlife Sites (including Natural Heritage Areas, proposed Natural Heritage Areas and Nature Reserves); Salmonid Waters; Flora Protection Order sites; and Freshwater Pearl Mussel catchments (the River Nore Freshwater Pearl Mussel sub-basin management Plan should be referenced in this regard);
<b>NH08</b>	<p>All projects and plans arising from this plan<sup>18</sup> (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:</p> <ol style="list-style-type: none"> <li>1. The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or</li> <li>2. The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or</li> </ol> <p>The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative</p>

Ref	Text
	reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.



### 8.3 Mitigation Measures-amendment of text

Additional text identified through the SEA process is included in **blue, bold** font.

**Table 9 Mitigation Measures –Amendment of Text**

LAP	Mitigation Measure	Included in LAP Yes/No
Key Plan Objectives Additional objective:	<b>7. To require the preparation and assessment of all planning applications in the plan area to have regard to the information, data and requirements of the Appropriate Assessment Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report that accompany this LAP;</b>	Yes
Opportunity Site: Maltings, Portlaoise Road, Zoning: Residential 2	<ul style="list-style-type: none"> <li>Strategically located on the Portlaoise Road entrance into the town with direct access onto National Secondary Route N80;</li> <li>A 0.37ha. brownfield site formerly used as a grain mill;</li> <li>Protected Structures on site;</li> <li>Fully serviced site;</li> <li>Extant permission for residential development of 37 no. apartments;</li> <li>Outside of Flood Zones A and B;</li> <li><b>Ecological survey including bat surveys may be required and results inform landscaping and design.</b></li> <li>Opportunity to intensify development to provide a key landmark or gateway building to signify the approach and entrance to the town from Portlaoise to create a sense of arrival;</li> <li>The building should address the extensive street frontage and be designed to an exceptional standard.</li> </ul>	Yes
KIP5:	Assess all applications in the context of available and sufficient public infrastructural facilities, the protection of Surface Water and Groundwater Resources <b>and their associated habitats and species<sup>11</sup></b> ;	Yes
KI 09:	Maintain, improve and enhance the environmental and ecological quality of surface waters and groundwater in accordance with <del>the South Eastern River Basin District River Basin Management Plan</del> / <b>National River Basin Management Plan for Ireland 2018-2021 (DHPLG) and associated Programme of Measures.</b>	Yes
KI 010:	Ensure developments will not adversely impact on the status of waterbodies in accordance with the Water Framework Directive and <del>South Eastern River Basin District River Basin Management Plan</del> ; <b>National River Basin Management Plan</b>	Yes

<sup>11</sup> On foot of EPA Scoping submission

for Ireland 2018-2021 (DHPLG)		
KI O11	Facilitate, promote and encourage the expansion and improvement of telecommunications, broadband, electricity and gas networks infrastructure <b>subject to proper planning and sustainable development</b>	Yes
KI 08	Co-operate with and facilitate the work of national telecommunications, broadband, electricity and gas network providers in the improvement, expansion and provision of energy and communication infrastructure <b>subject to proper planning and sustainable development</b>	Yes
NH O5:	Carry out and require the planting of <b>native</b> trees, hedgerows and vegetation in all new developments;	Yes
NH P2:	NH P2: Develop a greenway/blueway walking and cycling route along the River Owenass <b>having regard to ecological considerations including protected species and habitats.</b> ;	Yes
NH O5	NH O5: Carry out and require the planting of <b>native</b> trees, hedgerows and vegetation in all new developments;	Yes
NH O6:	Open up visual and physical access via the River Owenass as a continuous pedestrian and cycle link through the town centre, <b>having regard to ecological considerations including protected species and habitats.</b>	Yes
NH O10:	Protect environmental quality and implement <b>site appropriate</b> mitigation measures with respect to air quality, greenhouse gases, climate change, light pollution, noise pollution and waste management;	Yes

## **9 Monitoring**

### **9.1 Introduction**

It is proposed, in accordance with Article 10 of the SEA Directive, to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water pollution levels. Monitoring will focus on the aspects of the environment that are likely to be significantly impacted upon by the implementation of the LAP.

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

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

### **9.2 Frequency of Monitoring and Reporting**

Should new data or the following occur, additional monitoring will be required:


- pollution events associated with construction;
- boil notices on drinking water;
- fish kills;
- court cases taken by the DEHLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places; and,
- complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the LAP

In turn the list below is subject to review at each reporting stage to reflect new data. Laois County Council are responsible for the implementation of the SEA Monitoring Programme including

- Monitoring specific indicators and identifying any significant effects, including cumulative effects;
- Collating the Environmental Reports (such as Environmental Impact Assessment Reports, Natura Impact Reports etc) submitted by developers in the LAP area.
- Reviewing the effectiveness of monitoring/mitigation measures during the lifetime of the LAP and
- Identifying any cumulative effects.


It is recommended that the monitoring report be made available to the public upon its completion.



**Table 10 SEA Monitoring**

SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
<b>Biodiversity Flora and Fauna</b>	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species	Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the plan	Internal monitoring of likely significant effects Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs's National Monitoring Report for the Birds Directive under Article 12 (every 3 years). Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	 B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Plan	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). CORINE mapping resurvey (every c. 5 years). Review of Council Ecological Network Mapping


SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
	function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species			
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of listed species B3i	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of listed species	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). ☒ Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
Population and	PHH1: To protect	PHH1: Occurrence (any) of a	PHH1: No spatial concentrations	Consultations with EPA and Health Service



SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
<b>human health</b> <b>Noise</b> 	populations and human health from exposure to incompatible land uses <i>including adverse noise and air quality impacts</i>	spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	of health problems arising from environmental factors as a result of implementing the Plan	Executive (at monitoring evaluation - see Section 10.4
<b>Water</b> 	W1: To maintain and improve, where possible, the quality and status of surface waters	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' <sup>47</sup> by 2015	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). <sup>2</sup> Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W2: To prevent pollution and contamination of ground water	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). <sup>2</sup> Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual)
	W3: To comply as appropriate with the provisions of the Planning System and Flood Risk	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant)

SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
	Management: Guidelines for Planning Authorities (DEHLG, 2009)		The Planning System and Flood Risk Management Guidelines for Planning Authorities	
Soil and Geology	S1: To avoid damage to the hydrogeological and ecological function of the soil resource	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
	<i>S2: To maximise the sustainable re- use of brownfield lands, and the existing built environment, rather than developing greenfield lands.</i>	<i>Permission granted on Opportunity Sites</i> <i>% Occupancy of buildings in town centre</i>	<i>Number of Opportunity Sites developed over lifetime of the plan</i>	<i>Grant by grant</i>
Material Assets	M1: To serve new development with adequate and appropriate wastewater treatment	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan ?	M1: All new developments granted permission to be connected to and adequately served by waste water treatment over the lifetime of the Plan	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant)

SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
	M2: To serve new development with adequate drinking water that is both wholesome and clean	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant)
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	EPA National Waste reports
Climate Change, Air Quality and Noise	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	CSO Population Data
	C2: Ensure that the LAP proposals are adaptive to expected climate change	Number of SUDs measures included and developed as part of planning applications. Number/extent of additional tree	An increase in extent of Blue and Green infrastructure linkages in plan area	Grants of permission



SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
	<i>patterns.</i>	<i>planting as part of planning applications.</i>		
<b>Cultural Heritage</b>	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	CH1: Percentage of entries to the Record of Monuments and Places - including Areas of Archaeological Potential and Significance (and the context of the above within the surrounding landscape where relevant) - protected from significant adverse effects arising from new development granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - including Areas of Archaeological Potential and Significance (and their context of the above within the surrounding landscape where relevant) from significant adverse effects arising from new development granted permission under the Plan	
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (at monitoring evaluation - see Section 10.4).
<b>Landscape</b>	L1: To minimise significant adverse visual impacts within and adjacent to the County	1: Number of complaints received from statutory consultees regarding avoidable adverse visual impacts on the landscape resulting from development	L1: No developments permitted which result in avoidable adverse visual impacts on the landscape resulting from development which is granted	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).

SEA Topic	Strategic Environmental Objectives	Indicator	Selected Target	Source (Frequency)
		which is granted permission under the Plan	permission under the Plan	
	<i>L2 To protect and enhance landscape character and quality within and adjacent to the LAP area.</i>	<i>Number of Opportunity Sites and interventions from A vision for Mountmellick 2014 implemented over lifetime of plan</i>	<i>Adherence to all principles in A Vision for Mountmellick 20140</i>	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
Interrelationships	<i>Maintain and improve the health of people, ecosystems and natural processes</i>	<i>Blue and Green Infrastructure measures implemented over lifetime of plan</i>	<i>Increased network of blue and green infrastructure achieved over lifetime of the plan</i>	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
	<i>Actively seek to integrate opportunities for environmental enhancement</i>	<i>As above</i>	<i>As above</i>	Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).

### **9.3 Conclusion**

This SEA Environmental Report demonstrates how environmental parameters have been addressed in the plan preparation process. Consultation has been undertaken for the Scoping of this Environmental Report and further opportunity to comment on the Draft Plan will be possible over the forthcoming weeks.

The SEA and Appropriate Assessment has been undertaken in line with the Planning and Development (Strategic Environmental Assessment) Regulations 2004 to 2011 (as amended). Subject to the full and proper implementation of the mitigation measures outlined in this SEA Environmental Report and the Mountmellick LAP 2018-2024 including detailed design at planning application stage, it is considered that significant adverse impacts on the environment will be avoided.