



# Draft Clare County Development Plan 2023–2029

## Volume 10b(i) Strategic Environmental Assessment Environmental Report

10<sup>th</sup> December 2021



COMHAIRLE CONTAE AN CHLÁIR  
CLARE COUNTY COUNCIL



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**Appendix B** – Detailed Assessment of land-use zonings and site-specific development objectives

**Appendix C** – (Tables 8.2 – 8.5) – Detailed Assessment of cumulative and in-combination effects

**Appendix D** – Ennis Transformational Sites Mitigation Measures



## Abbreviations

|          |  |
|----------|--|
| ACA      | <i>Architectural Conservation Area</i>                                   |
| AA       | <i>Appropriate Assessment</i>  |
| CCDP     | <i>Clare County Development Plan</i>                                     |
| cSAC     | <i>Candidate Special Area of Conservation</i>                            |
| CSO      | <i>Central Statistics Office</i>   |
| DoECC    | <i>Department of Environment, Climate and Communications</i>             |
| DoTCAGSM | <i>Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media</i> |
| EDEN     | <i>Environmental Data Exchange Network</i>                               |
| EEA      | <i>European Environmental Agency</i>                                     |
| EIA      | <i>Environmental Impact Assessment</i>                                   |
| EIAR     | <i>Environmental Impact Assessment Report</i>                            |
| ER       | <i>Environmental Report</i>  |
| EU       | <i>European Union</i>  |
| GHG      | <i>Green House Gas Emissions</i>   |
| GIS      | <i>Geographical Information Systems</i>                                  |
| GSi      | <i>Geological Survey of Ireland</i>                                      |
| HAD      | <i>Habitats Directive Assessment</i>                                     |
| IGHP     | <i>Irish Geological Heritage Programme</i>                               |
| IPC      | <i>Integrated Pollution Control</i>                                      |
| LCEA     | <i>Limerick Clare Energy Agency</i>                                      |
| MASP     | <i>Metropolitan Area Strategic Plan</i>                                  |
| NDP      | <i>National Development Plan</i>   |
| NGO      | <i>Non-Governmental Organisation</i>                                     |
| NHA      | <i>Natural Heritage Area</i>   |
| NIAH     | <i>National Inventory of Architectural Heritage</i>                      |
| NPWS     | <i>National Parks and Wildlife Service</i>                               |
| NRA/NTA  | <i>National Roads Authority/National Transport Authority</i>             |
| NREAP    | <i>National Renewable Energy Action Plan</i>                             |
| NEEAP    | <i>National Energy Efficiency Action Plan</i>                            |
| NSS      | <i>National Spatial Strategy</i>   |
| NTS      | <i>Non-Technical Summary</i>   |
| OPW      | <i>Office of Public Works</i>  |
| P/P      | <i>Plan/Programme</i>  |
| PE       | <i>Population Equivalent</i>   |
| pNHA     | <i>Proposed Natural Heritage Area</i>                                    |
| PPP      | <i>Public Private Partnership</i>  |
| PRP      | <i>Pollution Reduction Programmes</i>                                    |
| RBD      | <i>River Basin District</i>  |
| RBMP     | <i>River Basin Management Plans</i>                                      |
| RMP      | <i>Record of Monuments and Places</i>                                    |
| RSES     | <i>Regional Spatial and Economic Strategy</i>                            |
| RA       | <i>Regional Assembly</i>   |
| RPS      | <i>Record of Protected Structures</i>                                    |



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| <i>S.I. No.</i>       | <i>Statutory Instrument Number</i>             |
| <i>SA</i>             | <i>Shannon Airport</i>                         |
| <i>SCP</i>            | <i>Shannon Commercial Properties</i>           |
| <i>SG</i>             | <i>Shannon Group</i>                           |
| <i>SAC</i>            | <i>Special Area of Conservation</i>            |
| <i>SDZ</i>            | <i>Strategic Development Zone</i>              |
| <i>SEA</i>            | <i>Strategic Environmental Assessment</i>      |
| <i>SEO</i>            | <i>Strategic Environmental Objective</i>       |
| <i>SFRA</i>           | <i>Strategic Flood Risk Assessment</i>         |
| <i>SO<sub>2</sub></i> | <i>Sulphur dioxide</i>                         |
| <i>SRA</i>            | <i>Southern Regional Assembly</i>              |
| <i>SPA</i>            | <i>Special Protection Area</i>                 |
| <i>SuDS</i>           | <i>Sustainable Drainage Systems</i>            |
| <i>TII</i>            | <i>Transport Infrastructure Ireland</i>        |
| <i>WFD</i>            | <i>Water Framework Directive</i>               |
| <i>WMU</i>            | <i>Water Management Units</i>                  |
| <i>WSIP</i>           | <i>The Water Services Investment Programme</i> |
| <i>WWTP</i>           | <i>Wastewater Treatment Plant</i>              |
| <i>WTP</i>            | <i>Water Treatment Plant</i>                   |

## Glossary

|   |   |
|---|---|
| <b>Alternatives (Reasonable)</b>        | Alternatives should take into account the objectives and geographical scope of the Plan or project (P/P). There can be different ways of fulfilling the P/P objectives, or of dealing with environmental problems. The alternatives should be realistic, capable of implementation and should fall within the legal and geographical competence of the authority concerned.   |
| <b>Appropriate Assessment</b>           | An assessment of the effects of a plan or project on the Natura 2000 network. The Natura 2000 network comprises Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive and Ramsar sites designated under the Ramsar Convention (collectively referred to as European sites).  |
| <b>Baseline environment</b>             | A description of the present state of the environment of the P/P area.  |
| <b>Baseline Survey</b>                  | Description of the existing environment against which future changes can be measured.   |
| <b>Biodiversity and Flora and Fauna</b> | Biodiversity is the variability among living organisms from all sources including inter alia terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992). Flora is all of the plants found in a given area. Fauna is all of the animals found in a given area.  |
| <b>Biotic Index Values (Q Values)</b>   | The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the Environmental Protection Agency. |
| <b>Birds Directive</b>                  | Council Directive of 2nd April 1979 on the conservation of wild birds (79/409/EEC).   |
| <b>Built Environment</b>                | Refers to both architectural heritage and archaeological heritage.  |
| <b>Cumulative Effects</b>               | 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  |
| <b>Data</b>                             | Includes environmental data, proxy data, any other relevant statistical data.   |
| <b>Ecology</b>                          | The study of relationships between living organisms and between organisms and their environment (especially animal and plant communities), their energy flows and their interactions with their surroundings.   |
| <b>Environmental Assessment</b>         | The preparation of an environmental report, the carrying out of consultations, consideration of the environmental report and the results of the consultations in decision-making and the provision of information on the decision (in accordance with Articles 4 to 9 of the SEA Directive).  |
| <b>Environmental Characteristics</b>    | Environmental resources, issues and trends in the area affected by the P/P.   |

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| <b>Environmental Impact Assessment (EIA)</b> | An ordered exercise designed to enable the environmental impacts of a proposed development/project to be anticipated before the project is carried out.  |
| <b>Environmental Impact Statement (EIS)</b>  | A statement of results from the ordered exercise which focuses on anticipating all environmental impacts of significance of a proposed development, prior to implementation or construction, and which specifies those measures which should be taken to eliminate or mitigate such impacts to an acceptable level.  |
| <b>Environmental indicator</b>               | An environmental indicator is a measure of an environmental variable over time, used to measure achievement of environmental objectives and targets.   |
| <b>Environmental objective</b>               | Environmental objectives are broad, overarching principles which should specify a desired direction of environmental change.   |
| <b>Environmental Problems</b>                | Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on ‘any existing environmental problems which are relevant to the plan or programme’, thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse. Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely. |
| <b>Environmental Receptors</b>               | Include biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological) and landscape as listed in the SEA Directive. This list is not exhaustive, and can include other receptors which may arise for a particular P/P.   |
| <b>Environmental Report (ER)</b>             | A document required by the SEA Directive as part of an environmental assessment which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.   |
| <b>Environmental Targets</b>                 | A target usually underpins an objective often having a time deadline that should be met and should be accompanied by limits or thresholds.   |
| <b>Environmental Vectors</b>                 | Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.   |
| <b>Evolution of the Baseline</b>             | A description of the future state of the baseline in the absence of a plan or programme assuming ‘business as usual’ or ‘do nothing’ scenarios, depending on which is more reasonable for the P/P being proposed.  |
| <b>Geographical Information System (GIS)</b> | is a computer system that collects, stores, views and analyses geographical information and commonly creates maps as an output   |
| <b>Geology</b>                               | Science of the earth, including the composition, structure and origin of its ROCKS   |
| <b>Habitat</b>                               | Area in which an organism or group of organisms live.  |
| <b>Habitats Directive</b>                    | Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.  |

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| <b>Habitats Directive Assessment</b> | An assessment of the effects of a plan or project on the Natura 2000 network. The Natura 2000 network comprises Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive and Ramsar sites designated under the Ramsar Convention (collectively referred to as European sites)   |
| <b>Hierarchy of Plans</b>            | Both higher and lower-level P/P relevant to the P/P being assessed.   |
| <b>Indirect effect</b>               | Any aspect of a P/P that may have an impact (positive or negative) on the environment, but that is not a direct result of the proposed P/P. May also be referred to as a secondary effect   |
| <b>Interrelationships</b>            | Associations or linkages, related to environmental impact of the proposed P/P usually on environmental receptors.   |
| <b>Issues Paper</b>                  | Paper produced as part of the consultation process, usually for Land Use Plans, to facilitate consultation with stakeholders on key issues.   |
| <b>Key environmental issues</b>      | Those significant environmental issues, which are of particular relevance and significance within a P/P area and/or the zone of influence of that P/P. These issues should be identified during SEA Scoping process.  |
| <b>Key environmental receptors</b>   | Aspects of the environment likely to be significantly impacted by the proposed P/P.   |
| <b>Material Assets</b>               | Critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment transportation etc.   |
| <b>Member States</b>                 | Those countries that belong to the European Union.  |
| <b>Mitigate</b>                      | To make or become less severe or harsh  |
| <b>Mitigation Measures</b>           | Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: avoid effects; reduce the magnitude or extent, probability and/or severity of effects; repair effects after they have occurred; and compensate for effects, balancing out negative impacts with other positive ones. |
| <b>Monitoring</b>                    | A continuing assessment of environmental conditions at, and surrounding, the plan or programme.<br>This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted. The primary purpose of monitoring is to identify significant environmental effects which arise during the implementation stage against those predicted during the plan preparation stage.  |
| <b>Monitoring Programme</b>          | A detailed description of the monitoring arrangements to be put in place to carry out the monitoring of the impact of the proposed P/P on the environment including frequency of monitoring, who has responsibility for monitoring, and responses if monitoring identifies significant negative impacts.  |
| <b>Natura 2000 Site</b>              | Designated European Site. In combination Special Areas of Conservation and Special Protection Areas will constitute Natura 2000 network of protected sites for habitats and species across the EU.  |
| <b>Natural Heritage</b>              | Refers to habitats and species of flora and fauna.  |

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| <b>Non-technical summary</b>            | A summary of the findings of the ER, summarized under the headings listed in Annex 1 of the SEA Directive that can be readily understood by decision-makers and by the general public. It should accurately reflect the findings of the ER.  |
| <b>Plan or Programme</b>                | Including those co-financed by the European Community, as well as any modifications to them:<br>- which are subject to preparation and/or adoption by an authority at national, regional, or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and<br>- which are required by legislative, regulatory, or administrative provisions.<br>In accordance with the SEA Directive, P/P that require SEA are those that fulfil the conditions listed in Article 2(a) and Article 3 of the SEA Directive.  |
| <b>Post-mitigation residual impacts</b> | Environmental effects that remain after mitigation measures have been employed.  |
| <b>Protected Structure</b>              | Protected Structure is the term used in the Planning Act of 2000 to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.   |
| <b>Proxy data</b>                       | Is a measure of activity resulting from a P/P which provides information on environmental impact without the need for a direct measure of an environmental receptor. For example, an increase in the number of vehicles (activity resulting from a P/P) can provide information on the impact on air quality and greenhouse gases without having to measure the concentration of these parameters in the receiving environmental receptor.   |
| <b>Public</b>                           | One or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups.  |
| <b>Recorded Monument</b>                | A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months notice to the Department of the Environment, Heritage and Local Government under section 12 of the National Monuments (Amendment) Act, 1994. |
| <b>Scoping</b>                          | The process of deciding the content and level of detail of an SEA, including the key environmental issues, likely significant environmental effects and alternatives which need to be considered, the assessment methods to be employed, and the structure and contents of the Environmental Report.   |
| <b>Screening</b>                        | The determination of whether implementation of a P/P would be likely to have significant environmental effects on the environment.<br>The process of deciding whether a P/P requires SEA.  |
| <b>SEA Directive</b>                    | Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'.  |

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| <b>SEA Statement</b>                            | A statement summarising:<br>- how environmental considerations have been integrated into the P/P<br>- how the ER, the opinions of the public and designated authorities, and the results of transboundary consultations have been taken into account<br>- the reasons for choosing the P/P as adopted in the light of other reasonable alternatives.  |
| <b>Secondary effect</b>                         | Effects that are not a direct result of the P/P, same as indirect effect.   |
| <b>Sensitivity</b>                              | Potential for significant change to any element in the environment that is subject to impacts.  |
| <b>Short-term effects</b>                       | These are typical of those effects that may occur during construction stage of a development, for example, the increased traffic going to and from a site during construction, or the noise associated with construction activities.  |
| <b>Significant effects</b>                      | 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.  |
| <b>SPA</b>                                      | Special Protection Area under Birds Directive (79/409/EEC), designated for bird species listed in Annex I of the Directive, in particular internationally important concentrations of migratory and wetland birds. Designation is focused on habitats of these species.   |
| <b>Statutory Authority</b>                      | The authority by which or on whose behalf the plan or programme is prepared.  |
| <b>Statutory Instrument</b>                     | Any order, regulation, rule, scheme or bye-law made in exercise of a power conferred by statute.  |
| <b>Strategic Actions</b>                        | Strategic actions include Policies, which may be considered as inspiration and guidance for action, and which set the framework for plans and programmes; Plans, sets of co-ordinated and timed objectives for the implementation of the policy; and Programmes, sets of projects in a particular area.   |
| <b>Strategic Environmental Assessment (SEA)</b> | Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment |
| <b>Strategic Environmental Objective (SEO)</b>  | Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international, national, and regional policies which generally govern environmental protection objectives and against which the environmental effects of the County Development Plan can be tested. The SEOs are used as standards against which the objectives of the County Development Plan can be evaluated to help identify areas in which significant adverse impacts are likely to occur, if not mitigated.   |

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| <b>Synergistic effect</b>         | Effects that, when totalled, result in a greater or lesser effect than the sum of the individual effects.   |
| <b>Threshold</b>                  | Magnitude of a project, which if exceeded, will trigger the requirement for an Environmental Impact Assessment.   |
| <b>Transboundary Consultation</b> | If a plan or programme is being prepared that is likely to have significant effects on the environment in another Member State, or where a Member State likely to be significantly affected so requests, the Member State in whose territory the plan or programme is being prepared shall, before the plan or programmes adoption or submission to the legislative procedure, forward a copy of the Plan or programme and the relevant environmental report to the other Member State. |
| <b>Zone of Influence</b>          | The area over which a plan can impact on the environment.   |



## Chapter One – Introduction

### 1.1 Purpose of this Report

This Environmental Report has been prepared as part of the Strategic Environmental Assessment of the **Clare County Development Plan 2023-2029** in accordance with national and EU legislation. It sets out how the SEA has been undertaken and presents the findings of the assessment of the policies and objectives coupled with an assessment of the settlements identified in the CDP together with its reasonable alternatives.

The Environmental Report complies with the requirements of the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) as implemented in Ireland through Statutory Instrument (S.I) No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended). These regulations are a statutory requirement for plans or programmes which could have significant environmental effects, and the assessment process aims to identify where there are potential effects and how any negative effects might be mitigated.

The assessment and Environmental Report have been completed by Clare County Council and informed by the associated Natura Impact Report prepared by RPS on behalf of Clare County Council.

### 1.2 Background

The Development Plan is the principal policy document of the Planning Authority which sets out an overall strategy for the proper planning and sustainable development of its functional area over a 6-year period. Development Plans comprise of a written statement supported by maps indicating the development objectives for the area in question, including several mandatory objectives. A Planning Authority is required to prepare and adopt a Development Plan every 6 years. Not later than 4 years after the adoption of the Development Plan, a Planning Authority is required to review its existing Development Plan and commence the preparation of a new one. The preparation, content and adoption of a Development Plan are governed by the provisions of the Planning and Development Act 2000, as amended. In general, the preparation and adoption of a Development Plan is a 2-year process and involves a number of stages, the first of which is consultation with the public and other interested bodies. The existing Clare County Development Plan 2017-2023 (as varied) was adopted by the Elected Members of Clare County Council on 19th December 2016 and will remain in force until **January 2023** unless otherwise superseded by a revised County Development Plan.

The Government recently published Project Ireland 2040 (National Planning Framework (NPF) and National Development Plan 2018-2027). Clare now forms part of the Southern Regional Assembly with the Regional Spatial and Economic Strategy (RSES) coming into effect on the 31<sup>st</sup> of January 2020. This included the Limerick-Shannon Metropolitan Area which encompasses Shannon as a key town and will accommodate significant job and population increases within the lifetime of the new Clare County Development Plan 2023-2029.

**Plate 1.0** illustrates the position of the Development Plan in the Irish Planning Hierarchy. The NPF and the RSES contain higher level policy and objectives which will in turn steer the development of County Clare at a lower level and it will be necessary to show evidence of adherence to these plans as part of the CDP.



**Plate 1 Irish Planning system Hierarchy**

In accordance with Section 11 of the Planning and Development Act, 2000 (as amended) a planning authority is legally obliged to prepare a Development Plan (CDP) for its functional area every six years. However, section 11(AB) of the same Act states that ‘*the council shall, not later than 4 years (or such longer period, not exceeding 5 years, as the Minister may specify by order) after making of a development plan, give notice of its intention to review its existing development plan and to prepare a new development plan for its area*’. Section 11 (1) (b) of the Planning and Development Act 2000 as amended sets out additional legislative provisions for the initiation of the review of County Development Plans to enable the incorporation of the National Planning Framework and the Regional Spatial and Economic Strategy into a development plan:

*(i) where notice of a development plan review to be given is prior to the making of the relevant regional spatial and economic strategy, then notice of the review shall be deferred until not later than 13 weeks after the relevant regional spatial and economic strategy has been made,*

*(ii) where a development plan review has commenced and a draft plan has not been submitted to the members of the planning authority concerned in accordance with subsection (5) (a) prior to the making of the relevant regional spatial and economic strategy, then the review process shall be suspended until not later than 13 weeks after the making of the relevant regional spatial and economic strategy,*

*(iii) where notice of a development plan review to be given would be more than the period of 26 weeks after the making of the relevant regional spatial and economic strategy, then each planning authority concerned shall, within that period, either —*

*(I) give notice of a development plan variation in accordance with section 13, or*

*(II) give notice of a development plan review.*

Section 11 (1) (b) (iii) (II) is of relevance to Clare County Council as the current Development Plan was adopted in December 2016 and a review had not commenced before the adoption of the Regional Spatial and Economic Strategy for the Southern Region (RSES) on the 31<sup>st</sup> January 2020. Therefore, the

review process for the Draft County Development Plan 2023-2029, commenced on the 18<sup>th</sup> of September 2020, with the publication of the Strategic Issues Paper for the County.

### 1.2.1 County Clare

County Clare is situated on the west coast of Ireland in the province of Munster, covering an area of 318,784 hectares (787,715 acres) and home to a population of 118,817 (Census 2016). The National Planning Framework sets out the population target for growth for the County to 2031. The population target is lower than previous population target allocations for the County. The Core Strategy for the new County Development Plan 2023-2029 must realign population growth in terms of its distribution throughout the towns and villages of the County. It is bounded by the counties of Galway to the north, Tipperary to the east and Limerick to the south. Its natural surface water boundaries comprise of Galway Bay to the north, the River Shannon and Lough Derg to the east and the Shannon Estuary to the south and the Atlantic seaboard to the west.

The County has a diverse topography, varying from bare limestone pavement to estuarial mudflats and from high Atlantic cliffs to inland water ways and lakes. The County's coastline is 360km in length. Much of the county has underlying limestone strata which is highly permeable. County Clare is noted for its agriculture, tourism and landscapes including the Burren National Park, renowned for its physical and cultural heritage.

Ennis is the County town and the administrative centre of County Clare as well as being identified as a Key Town in the RSES for the Southern Region. As outlined in the Regional Spatial Economic Strategy (RSES) for the Southern Region, Ennis is identified as a large population scale urban centre functioning as self-sustaining regional driver and as a key town. With a population of 25,276 in 2016, it is the largest town in Munster and the fifth largest settlement in the Region. The triangle of Limerick-Shannon-Ennis is recognised as the economic engine of the Mid-West. The M18 has created a greater synergy and connection between Ennis and Galway and there is potential to attract economic drivers/infrastructure such as data centres.

Shannon forms part of the Limerick Shannon Metropolitan Area and is seen as a significant employment centre with assets such as Shannon International Airport, Shannon Free Zone and the International Aviation Services Centre (IASC). The Limerick-Shannon Metropolitan Area Strategic Plan (MASP) seeks to integrate sustainable economic and social development with the protection and enhancement of the natural environment whilst ensuring our transition to a climate resilient society. Shannon will be a key economic driver within the Metropolitan Area and will accommodate significant job and population increases within the lifetime of the new Clare County Development Plan 2023-2029.

The County is well served by air, road, and rail transport facilities. Shannon International Airport caters for over 2 million passengers per year (pre COVID) providing services to the UK, Europe, and USA. Strategic road access is provided by the Ennis by-pass and the N18/M18 motorway, creating easy connectivity with the rest of the country. The Western Rail Corridor provides regular daily commuter services between Ennis and Limerick to Dublin and between Ennis and Athenry and Galway. Marine access and transport are provided for at Moneypoint, Killimer, Shannon Airport and harbours along the Atlantic coastline. The potential for greater accessibility along the deepwaters of the Shannon Estuary has been the subject of the Strategic Integrated Framework Plan for the Shannon Estuary.

Commerce and trade are the greatest source of employment in the County. Outside the Industrial/business, retail and administrative employment centres of Shannon, Ennis and Kilrush, tourism and agriculture are two of the primary industries in the County.

The physical, social and community infrastructure in the towns and villages around the County continue to be progressed.

As per Volume 3 the county is split into 4 Municipal Districts within which the settlements are contained as per **Figure 1.1**.

### ***Volume 3 – Municipal District Settlement Plans***

This volume contains individual settlement plans and land use zoning details for each of the towns and villages in the municipal districts of the County as follows:

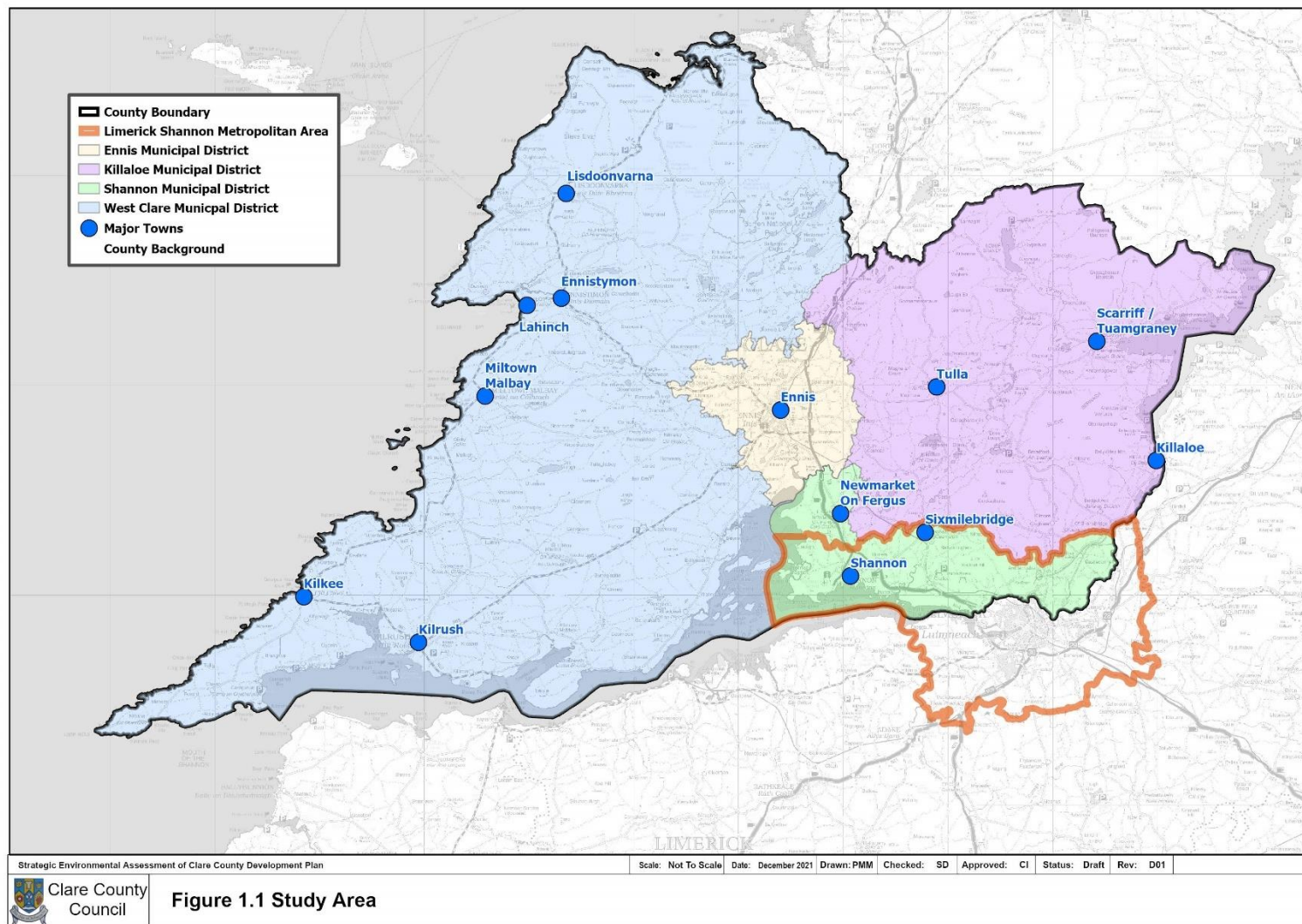
Volume 3(a) – Ennis Municipal District Settlement Plans

Volume 3(b) – Shannon Municipal District Settlement Plans

Volume 3(c) – Killaloe Municipal District Settlement Plans

Volume 3(d) – West Clare Municipal District Settlement Plans

Figure 1.1 Study Area





### 1.2.2 Interaction with Other Relevant Plans and Programmes

As part of the SEA process, the context of the Clare County Development Plan 2023-2029 must be established regarding other plans and programmes that have been adopted at the International, European, National and Regional levels. The purpose of the review is to take into consideration the legislative and policy framework within which the Clare County Development Plan 2023-2029 must comply. The review is set out in Chapter 4 of the SEA Environmental Report.

### 1.2.3 Settlement Hierarchy and Strategy

All the policies and objectives of this Clare County Development Plan 2023-2029 flow from and are consistent with the higher level national and regional policies and strategies. The Core Strategy population target tables set out in **Tables 3.2 to 3.3.7 of Chapter 3** of the written statement of the County Development Plan; identify the relevant population figure and housing land requirement for each of the settlements in the Settlement Hierarchy. These population targets and land requirements are reflected in the settlement plans set out in **Volume 3** of this development plan.

Strong settlements are the mainstay of a strong county. Vibrant and viable settlements that provide a range of jobs, services and housing choice not only create the basis of strong economies and communities, but also support a greater range of sustainable modes of transport, both within and between settlements. The development of a range of settlements that work together to the benefit of the county and all its inhabitants, including those in rural areas, can only occur in a planned way. The main tool of achieving this is a Settlement Strategy based on the Core Strategy which will enable the proper planning and sustainable development of towns, villages, and rural areas.

The Settlement Strategy for County Clare is outlined in full in **Chapter 4** of the written statement of the County Development Plan. It gives effect to the NPF and the RSES and will act as a guide to the location and scale of new development over the course of the lifetime of this development plan. There is a clear link between the Settlement Hierarchy and the role of the Hub of Ennis and the Limerick-Shannon MASP; the population target for the county, the designation of Service Towns as set out in the Regional Spatial and Economic Strategy for the Southern Region and the population targets and housing requirements for each settlement in the County Clare Settlement Hierarchy.

The Settlement Strategy for County Clare seeks to ensure a good quality of life for those who live and/or work in the County through the achievement of a network of vibrant settlements, strong rural areas, sustaining and increasing population levels and job/service provision. The Strategy guides where, when, and how new development should take place in a manner, scale and form that is appropriate, having regard to national policy, the settlement hierarchy and target populations (outlined in **Chapter 3 of Volume 1**), the local characteristics and the physical constraints of individual areas within the County.

The Settlement Strategy aims to ensure that future development is directed in a balanced, sustainable, and plan-led manner across the County. It recognises the roles of the countryside and all the designated towns, villages, and clusters in Clare in achieving a balanced Settlement Strategy for the County.

The settlement statements and plans contained in **Volume 3** of the Plan set out detailed policies, objectives, and land use zonings for every settlement in accordance with their position and role in the Settlement Hierarchy. The position of a settlement within the Settlement Hierarchy provides an

indication of the potential scale of population growth permissible over the lifetime of the Plan and therefore plays a key role in the appropriate delivery of the population targets outlined in Chapter 3 of the Plan.

The Settlement Strategy aims are linked with and support relevant policies and objectives elsewhere in the Plan so as to ensure that in addition to being centres of population the settlements also deliver on their roles as employment and service centres.

The range of locations in County Clare from the County Town of Ennis, the service towns of Kilrush, Scarriff/Tuamgraney and Ennistymon/Lahinch, to the smaller towns, rural villages, clusters, and countryside is called the Settlement Hierarchy and is outlined in **Figure 1.3** and **Table 1.1** below. The Hierarchy is based not only on population, but on a variety of strategic long-term planning and land use concerns including: the capacity of individual areas to accommodate growth; availability of road, rail and air transport; availability of water and wastewater services; availability of education facilities; and the requirement to revitalise rural areas. In addition, the requirements of the Strategic Environmental Assessment (SEA) process informed the preparation of the Settlement Hierarchy.





**Table 1.1 Settlement Hierarchy in County Clare**

### 1.3 Nature of Zonings

At the outset, it should be noted that a development proposal that complies, in principle, with the relevant land use zoning, will not automatically be guaranteed or granted planning permission. Clare County Council shall consider each proposal for development on its individual merits having regard to Section 34 of the Planning and Development Act 2000 (as amended).

The following describes the individual zonings proposed in each of the settlements across the county:

#### **Agriculture**

This zone is for the use of land for agricultural purposes and farming-related activities and to preserve the amenity of the town or village setting. Individual dwellings for permanent occupancy of established landowners (i.e., within family ownership for the preceding 10 years) will be open for consideration subject to normal site suitability considerations.

#### **Airport**

Land zoned for airport development shall be used for airport-related uses, buildings, infrastructure and services and compatible aviation-related businesses and industries.

#### **Buffer Space**

Buffer spaces are intended to provide a buffer of undeveloped land for the conservation of biodiversity, visual amenity or green space. Buffer spaces may include natural features such as floodplains, riparian zones, turloughs, valuable biodiversity areas including designated sites, amenity areas, woodlands, hedgerows, green spaces and archaeological features.

#### **Commercial**

The use of land zoned for 'commercial' purposes shall be taken to include the use of the lands for commercial and business uses including offices, service industry, warehousing and the facilitation of enterprise/retail park/office type uses as appropriate. Retailing is open for consideration on this zoning, provided that a sequential test is carried out and the lands are demonstrably the optimum location for the nature and quantum of retail development proposed.

#### **Neighbourhood Centre**

It is intended that land zoned for 'neighbourhood centre' will be developed to provide an appropriate range of local services including commercial, retail and community uses, to support the population of the surrounding area.

#### **Community**

The development of lands for community uses shall be taken to include the use of lands for community, civic, health services, public or educational uses including the provision of schools, community halls, healthcare facilities and any other facility that is intended to provide some form of community service. Public or private delivery is not a factor in this case.

## **Enterprise**

Lands zoned for ‘enterprise’ shall be taken to include the use and development of land for high end research and development, business science and technology-based industry, financial services, call centres/telemarketing, software development, data centres, enterprise and incubator units, small/medium manufacturing or corporate office in high quality campus/park type development.

It is intended that such developments will have high quality architectural design and landscaping. This zoning allows for ‘walk to’ support facilities such as canteen, restaurant or crèche services which are integrated into employment units and are of a nature and scale to serve the needs of employees on the campus.

This zoning also allows for associated power generating infrastructure as well as transportation infrastructure such as car and bicycle parking and bus stop shelters. This zoning excludes general retail, retail park outlets, motor sales/servicing activities and heavy industrial undertakings.

Lands zoned for ‘enterprise’ in large villages and small villages shall be taken to include the use and development of land for small-scale business and enterprise development such as incubator units, craft centres/workshops, small-scale manufacturing, local digital/technology business etc. Retail use on these sites shall only be considered where it is ancillary to the main activity taking place.

Enterprise developments in large villages and small villages must have a high standard of architecture and landscaping and must be relative and appropriate to their scale, size and character.

## **Existing Residential**

The objective for land zoned ‘existing residential’ is to conserve and enhance the quality and character of the areas, to protect residential amenities and to allow for small scale infill development which is appropriate to the character and pattern of development in the immediate area and uses that enhance existing residential communities. Existing residential zoned land may also provide for small-scale home-based employment uses where the primary residential use will be maintained.

## **Industry**

The use of land for industry uses shall be taken to include the use for industrial processing or manufacturing of a scale and nature where there is significant goods, manufacturing, and related issues. Uses of this nature may result in the generation of emissions.

This type of industrial activity may also be subject to the SEVESO Directives, the main EU legislation dealing with the control of onshore major accident hazards involving dangerous substances.

A mix of uses such as office-based or retail development is not considered appropriate in areas zoned for industrial development.

## **Light Industry**

The use of land for light industry shall be taken to include uses where the primary activity is the manufacture of a physical product. The use for industry/manufacturing, incubator units, distribution,

open storage, transport operating centres and the treatment/recovery of waste material is acceptable.

Processes carried out, or the machinery/plant installed on land zoned for Light Industry must be such that they could be carried out or installed without detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust or grit.

Uses such as retail development or small/medium office-based developments are not considered appropriate in areas zoned for light industry, save where it is ancillary to the main use of the development. Large-scale office type development (>1000m<sup>2</sup>) such as call centres are open to consideration subject to compatibility with surrounding land uses.

### **Low Density Residential**

This zoning refers to the use of lands to accommodate a low-density pattern of residential development, primarily detached family dwellings. The underlying priority shall be to ensure that the character of the settlement/area is maintained and further reinforced by a high standard of design. Proposed developments must also be appropriate in scale and nature to the areas in which they are located.

### **Marine-Related Industry**

Land zoned for marine-related industry shall provide for marine-related industry and large-scale uses that create a synergy with the marine use. Marine-related industry shall be taken to include the use of land for industry that, by its nature, requires a location adjacent to estuarine/deep water including a dependency on marine transport, transshipment, bulk cargo or where the industrial processes benefit from a location adjacent to the marine area.

### **Maritime/Harbour**

The use of land for maritime/harbour related activity shall be taken to include the use of land, including harbours and piers, that will facilitate small-scale, water-based commercial or tourism activity and associated facilities including carparking facilities.

### **Mixed Use**

The use of land for ‘mixed use’ developments shall include the use of land for a range of uses, making provision, where appropriate, for primary and secondary uses e.g., commercial/retail development as the primary use with residential development as a secondary use. Secondary uses will be considered by the local authority having regard to the character of the given area.

On lands that have been zoned ‘mixed-use’ in or near town or village centres, a diverse range of day and evening uses is encouraged and an over-concentration of any one use will not normally be permitted.

## **Open Space**

It is intended that lands zoned ‘open space’ will be retained as undeveloped open space, mainly for passive open space related activities. The open space/park areas could contain active play facilities such as children’s play areas, but these would only be a small component of the overall areas involved.

## **Recreation**

This category of zoning provides for the use of land for the provision of sports grounds/playing pitches, golf courses, tennis courts and other active indoor and outdoor recreational facilities that contribute to meeting the leisure, recreation and amenity needs of the immediate community and/or the wider area.

## **Residential**

Residential use shall be taken to primarily include the use of land for domestic dwellings. It may also provide for a range of other uses particularly those that have the potential to foster the development of new residential communities e.g., schools, crèches, open spaces etc.

## **Strategic Residential Reserve**

It is acknowledged that within the plan period not all lands within the settlement boundaries of the serviced settlements will be required to 2028. In these cases, some lands have been included as a strategic residential reserve, where they comprise infill or contiguous sites or have a planning history for residential use and can form part of the long-term sequential expansion of the settlement where considered appropriate.

In addition to protecting these lands for the long term expansion of these settlements, consideration may be given to the development of some of the strategic reserve before the end of the current plan period where the Planning Authority is satisfied that the development of zoned land is progressing faster than expected and a shortage of available lands may arise where residential zoned land may not be delivered as expected and a shortage may arise or where residential zoned land may not be delivered as expected during the plan period.

The development of such lands will only be considered from the beginning of year four of the Plan (October 2026) in order to give zoned land an opportunity to come forward for development, and where it can be clearly demonstrated to the satisfaction of the planning authority that a zoned parcel of land will not come forward for development due to infrastructural or other demonstrable constraints during the remaining period of the Plan, and the proposed strategic residential reserve lands can be serviced and offer a reasonable substitute in terms of being delivered within the lifetime of the plan and are sequential development with good connectivity and access to services and amenity.

## **Tourism**

Land zoned for tourism development shall be used for a range of structures and activities which are primarily designed to facilitate tourism development and where uses are mainly directed at servicing tourists/holiday makers and visiting members of the public.

## **Transport Utilities**

It is intended that land zoned ‘transport utilities’ will be reserved for the provision of infrastructure required to move people and goods by rail, bus, car or bicycle including existing and proposed train stations, bus stations and coach parks.

## **University Zone**

It is intended that lands identified as ‘University Zone’ will be reserved to accommodate development and uses associated with higher education including research and development, student/campus accommodation, residential uses complementary to the uses contained within the University Zone, student support services, enterprise/start-up business units, commercial units linked to the research and development role, recreation, sport and social facilities and open spaces. This zoning is suitable for designation as a Strategic Development Zone (SDZ).

## **Utilities/Infrastructure Safeguard**

It is intended that land zoned ‘utilities’ and ‘infrastructure safeguard’ will be reserved for the existing and future provision of key infrastructural services and the upgrading of existing services and infrastructure relating to road, rail, air, electricity, telecommunications, gas, water and wastewater treatment services.

## **Strategy for Growth and Sustainable Communities - Village Growth Areas**

The strategy for the sustainable growth of the village and its community is through consolidation and regeneration that promotes compact sequential growth and supports and strengthens a sustainable village community and its rural hinterland. This will be achieved by encouraging small scale growth in areas which make a positive contribution to the overall enhancement of the village and sustains it into the future. In line with this approach and to promote vibrant rural villages, village growth areas have been identified which provide opportunities and choice for development, including small scale commercial, enterprise, community, services/facilities as well as small scale cluster housing, all of which offer a viable and attractive option for rural living within a village community and setting.

The Small Villages of County Clare have a predominantly rural character with some public/community services such as a church, school, shop, etc. Their attractive character and community infrastructure, provide opportunities for sites for independent development and low-density cluster style residential developments to act as viable alternatives to single housing in the countryside. The Council will seek investment in this regard to develop the “New Homes in Small Towns and Villages” initiative in this regard. In addition to small-scale, incremental residential growth, appropriate commercial or employment-generating developments that are of a scale and nature that is sympathetic to the existing village will also be encouraged. Both residential and commercial growth in these settlements will be monitored over the Plan period.

The village boundaries are illustrated on the individual settlement land use plans which can be found in Volume 3 of this Plan and a long-term timeframe for the development of these villages is considered to be appropriate. The settlement statements and land use plans for the small villages and the associated Village Growth Area designations seek to achieve compact growth through brownfield redevelopment and the regeneration of underutilised sites to address issues such as dereliction and

vacancy, to promote the shift to sustainable transport modes and to enhance the connectivity to, and the viability of local shops and services. The areas identified as village growth areas allow for the sustainable compact growth of small villages, providing opportunities for small scale cluster type housing, as well as for other uses appropriate to the function, size and scale of the settlement.

#### 1.4 Zoning Matrix

**Appendix 2** of Volume 1 the written statement outlines the Land Use Zoning Matrix for the Clare County Development Plan 2023-2029. This matrix lists the most common forms of development and classifies whether the proposed use is acceptable in principle, or otherwise, on lands that are zoned for a particular use. Each proposal submitted to the Council for consideration will be assessed based on its own individual merits.

##### ✓ **‘Permitted in Principle’**

‘Permitted in Principle’ means that the proposed use is generally acceptable subject to normal planning process and compliance with the relevant policies, objectives, standards and requirements as set out in the County Development Plan, and by other government bodies/sections, in accordance with the proper planning and sustainable development of the area. If a proposal is indicated to be ‘Permitted in Principle’ in the zoning matrix, this does not imply that planning permission will automatically be granted as other factors must be considered and each proposal for development is considered on its individual merits.

##### O **‘Open for Consideration’**

The proposed use may be permitted where the local authority is satisfied that it is in compliance with the zoning objectives, standards and requirements as set out in the County Development Plan and by other government bodies/sections, and will not conflict with the permitted, existing or adjoining land uses in accordance with the proper planning and sustainable development of the area.

##### X **‘Not Normally Permitted’**

The proposed use will not normally be favourably considered by the local authority, except in exceptional circumstances, and in such instances, the development may represent a material contravention of the Plan. This may be due to envisaged negative impacts on existing and permitted uses, incompatibility with policies and objectives contained in the County Development Plan or it may be contrary to the proper planning and sustainable development of the area.

#### **Uses not Listed in the Zoning Matrix**

Proposed land uses which are not listed within the land use zoning matrix will be considered on a case-by-case basis having regard to the proper planning and sustainable development of the area and compliance with the relevant policies and objectives, standards and requirements as set out in this Clare County Development Plan 2023 - 2029, guidelines issued by the Department of Housing, Local Government and Heritage other government bodies / sections.



### **‘Non-conforming uses’**

‘Non-conforming uses’ are established uses that do not conform to the zoning objectives of the Plan. Generally, the Council will consider reasonable extensions and improvements to premises that accommodate non-conforming uses, if it would not be injurious to the amenities of the area and is consistent with the proper planning and sustainable development of the area.

## Chapter Two - SEA Methodology

### 2.1 Introduction

Strategic Environmental Assessment (SEA) is a process for evaluation, at the earliest appropriate stage, the environmental effects of plans or programmes before they are adopted. It also gives the public and other interested parties an opportunity to comment and to be kept informed of decisions and how they were made. An early consideration of environmental concerns in the planning process creates an opportunity for environmental factors to be considered explicitly alongside other factors such as social, technical, or economic aspects. SEA became a statutory requirement for certain plans and programmes following the adoption of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive). This was transposed into Irish Law through Statutory Instrument (SI) No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended) and the Planning and Development (SEA) Regulations 2004 (SI No. 436 of 2004) which became operational on the 21<sup>st</sup> of July 2004. SI No. 435 of 2004 was amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendments) Regulations 2011 (SI No. 200 of 2011). Collectively, this legislation is referred to as the “SEA Regulations” for the purposes of this report.

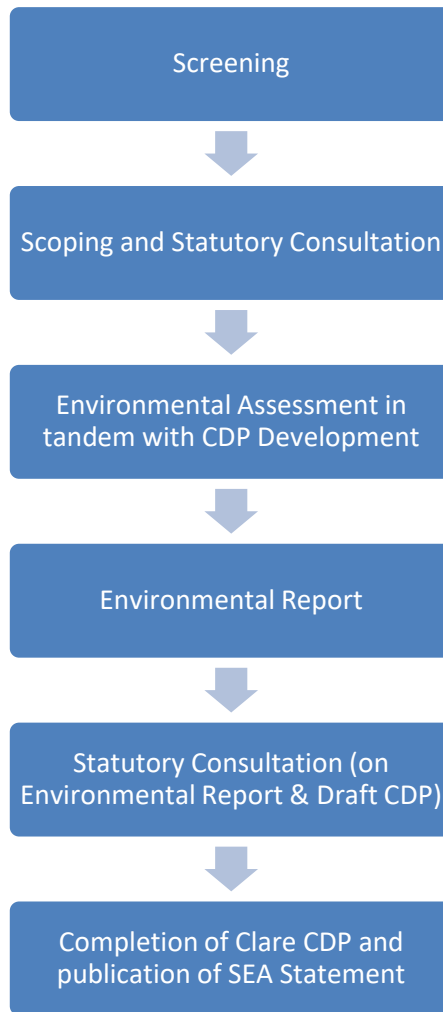
SEA is a key process that promotes sustainable development and highlights significant environmental issues within the planning regime. The purpose of SEA is to evaluate the likely significant effects of implementing a plan or programme formally and systematically, in this instance the Clare CDP 2023-2029. 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 Clare CDP throughout the process. This Environmental Report forms part of the SEA of the Clare CDP and documents the SEA process. It is the key consultation document in the SEA process and facilitates interested parties to comment on the environmental issues associated within the Clare CDP. This Environmental Report forms part of the SEA on the Clare CDP and should be read in conjunction with the Clare CDP itself.

### 2.2 SEA Process

The preparation of the Clare County Development Plan 2023-2029 requires a full SEA as outlined in **Chapter 1**. The SEA process can be categorised into several stages as summarised in **Table 2.1**.

**Table 2.1 Summary of the Strategic Environmental Assessment Process**

| Stage  | Comments   |
|--|--|
| <b>Screening</b>   | A screening was undertaken to determine the need for environmental assessment of the Clare County Development Plan 2023-2029 taking account of relevant criteria set out in schedule 2A.   |
| <b>Scoping</b>   | Scoping was conducted to determine the baseline environmental parameter data and issues to be considered further in the Environmental Report. Submissions received from Environmental Authorities will be incorporated into the Environmental Report.  |
| <b>Consultation with the Environmental Authorities</b>   | Consultation will be conducted throughout the SEA process and Plan making process.   |
| <b>Preparation of Environmental Report Clare County Development Plan 2023-2029 including:</b><br><br><ul style="list-style-type: none"> <li>• Environmental baseline data</li> <li>• Environmental Objectives</li> <li>• Development Plan Objectives and zoning assessment</li> <li>• Consultation with EPA, etc.</li> <li>• Assessment of Alternatives</li> <li>• Mitigation measures identified</li> <li>• Monitoring measures identified</li> </ul> | <p>A multi disciplinary team is established to create policy consistent documents and to examine the effects on the environment of implementing the Plan.</p> <p>Objectives and land-use zoning included in the Plan will be assessed through- out the Plan making process.</p> <p>Alternative options will be identified and assessed culminating in defining a preferred alternative for the Development Plan.</p> <p>Feedback from on-going Plan preparation process and Environmental Report preparation.</p> <p>Mitigation measures will be discussed and chosen.</p> <p>Monitoring will be incorporated with any existing methods.</p> |
| <b>Non-Technical Summary</b>   | A summary of the findings of the Environmental Report, summarised under the headings listed in Annex 1 of the SEA Directive, which can be readily understood by decision-makers and by the public. It should accurately reflect the findings of the Environmental Report.  |
| <b>Strategic Environmental Assessment (SEA) Statement</b>  | An outline of how environmental considerations are integrated into the Plan; how the Environmental Report, the opinions of the public and statutory authorities and the results of trans-boundary consultations are considered, and the reasons for choosing the Plan as adopted in the light of other reasonable alternatives.  |
| <b>Monitoring the Plan</b>   | Monitoring environmental effects over the lifetime of the Plan   |



**Figure 1.2 Overview of SEA Process**

### 2.2.1 Screening

In accordance with the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended by S.I. No. 201 of 2011.

Article 13B of the Planning and Development (Strategic Environmental Assessment) Regulation 2004 (S.I. 436 of 2004), as amended by S.I. 201 of 2011, makes SEA mandatory for development plans where the population or the target population of the area of a development plan is 10,000 persons or more. Screening was therefore deemed unnecessary, and the SEA proceeded to Scoping.

### 2.2.2 Scoping

Scoping is the procedure whereby the range of environmental issues and the level of detail to be included in the Environmental Report are decided upon in conjunction with the prescribed environmental authorities after preliminary data collection. The scoping exercise for the Clare County Development Plan 2023-2029 was undertaken in October/November 2020 in response to observations received from environmental bodies. Scoping helps to focus the SEA on important issues such as those relating to existing and potential environmental issues and problems, therefore

minimising the waste of resources on unnecessary data collection. This scoping facilitated the selection of issues relevant to the environmental components which are specified under the SEA Directive and Regulations (as amended), namely, biodiversity, flora, and fauna; population, human health and quality of life; soil and geology; water; air and climatic factors; material assets; cultural heritage including architectural and archaeological heritage; and landscape.

In accordance with legislation, separate scoping notification was issued to the prescribed environmental authorities in October 2020, as well as to adjoining local authorities. Three submissions were received on the SEA and AA specifically as part of the consultation with the environmental authorities. A summary of the scoping submissions received, and how the issues are addressed in this SEA is provided in **Table 2.2** below.

| No | Submission   | Environmental Issue   | To be addressed in SEA   |
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| 1  | <p><i>David Galvin, SEA Section, Office of Evidence and Assessment, Environmental Protection Agency.</i></p> | <p><i>SEA of Local Authority Land Use Plan – EPA Recommendations and Resources</i></p> <p>The EPA highlighted the provision of the attached guidance document which sets out the EPA's key recommendations for integrating environmental considerations into Local Authority land use Plans.</p> <p>The Plan should align with key relevant higher-level plans and programmes and be consistent with the relevant objectives and policy commitments of the National Planning Framework and the Regional Spatial and Economic Strategy for the Southern Region.</p> <p><i>State of the Environment Report</i></p> <p>In preparing the Plan and SEA, the recommendations, key issues and challenges described within the most recent State of the Environment Report (EPA, 2016) should be considered, as relevant and appropriate to the Plan. (Note, State of the Environment Report 2020 has since been released)</p> <p><i>Community Engagement</i></p> | <p>The EPA guidance document will be considered in preparing the Plan and associated SEA.</p> <p>The new County Development Plan 2023-2029 is being prepared in accordance with the national Planning Framework and the Regional Spatial and Economic Strategy for the Southern Region. All objectives arising from this national and regional policy have framed the preparation of the Plan.</p> |

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|  | <p>In preparing the the Plan and carrying out the SEA (including developing alternatives), the need to proactively engage local communities should be a core consideration.</p> <p><b>Sustainable Development Goals</b><br/>Describing the links with the UN Agenda 2030 for Sustainable Development and the related Sustainable Development Goals (SDGs) would help to frame the Plan (and SEA) within the context of the wider sustainable development agenda and ensure that the Plan is consistent with achieving the SDGs. Relevant targets and actions in Ireland’s SDG Implementation Plan (DCCAE, 2018) should be integrated as appropriate into the Plan.</p> <p><i>Critical service infrastructure</i><br/>In proposing and in implementing the Plan, you should ensure that the Plan is consistent with the need for proper planning and sustainable development. Adequate and appropriate critical service infrastructure should be in place, or required to be put in place, to service any development proposed and authorised during the lifetime of the Plan.</p> <p><i>Integration of transport and land-use planning</i><br/>The Plan should support the need for compact growth and better integration of transport and land-use planning, including walking and cycling infrastructure, public transport, park-and-ride facilities, etc.</p> <p><i>Biodiversity</i><br/>The Plan should include specific actions/objectives and commitments to protect designated habitats and protected species (and associated ecological corridors/linkages) within, and adjacent to, the Plan area. The EPA has published guidance on <i>Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes. Best Practice Guidance</i>. The aim of this guidance is to inform practitioners, plan/project proponents and consent authorities on integrating SEA, EIA and AA processes and requirements to streamline biodiversity considerations. This may be useful to consider in preparing the Plan and SEA.</p> <p><i>Coastal Zone Management</i><br/>The Plan should include specific coastal zone management objectives and should consider future</p> |  |
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|  |  | <p>climate scenarios in terms of predicted higher sea levels and periods of increased frequency of storm conditions and associated flooding. The Plan should ensure the protection of ecological buffers/marshlands/estuaries, in order that the effects of coastal squeeze on protected species/designated habitats can be managed appropriately where possible. The role which estuaries and marshes play in terms of flood alleviation could also be highlighted.</p> <p><i>Climate Action</i></p> <p>The Plan should align with national commitments on climate change mitigation and adaptation, including those set out in the <i>Climate Action Plan 2019</i>, as well as incorporating any relevant recommendations and measures in sectoral, regional and local climate adaptation and mitigation plans.</p> <p>Key climate-related aspects to consider in the Plan and SEA include:</p> <ul style="list-style-type: none"> <li>• Direct and indirect impacts of the Plan on greenhouse gas emissions and removals (Mitigation);</li> <li>• Direct and indirect impacts of climate change on the implementation of the Plan, e.g. the resilience of critical water service infrastructure to flooding and drought (Adaptation);</li> <li>• The linkages between mitigation and adaptation (inter-relationships).</li> </ul> <p>A list of the key resources, guidance, plans and programmes (national, regional, and sectoral) which may be of assistance in incorporating the factors raised in the submission into the Plan and SEA were provided.</p> <p><u><i>Tools &amp; Applications</i></u></p> <p><i>Environmental Sensitivity Mapping (ESM) Webtool</i></p> <p>The ESM Webtool is a new decision support tool to assist SEA and planning processes in Ireland. The tool brings together over 100 datasets and allows users to explore environmental considerations within a particular area and create plan-specific environmental sensitivity maps. These maps can help planners anticipate potential land-use conflicts and help identify suitable development locations,</p> |  |
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|   |   | <p>while also protecting the environment. The ESM Webtool is available at <a href="http://www.enviromap.ie">www.enviromap.ie</a></p> <p><i>EPA SEA WebGIS Tool</i><br/>Our SEA WebGIS Tool, available through the EDEN portal (<a href="https://gis.epa.ie/EIS_SEA/">https://gis.epa.ie/EIS_SEA/</a>), allows public authorities to produce an indicative report on key aspects of the environment in a specific geographic area. It is intended to assist in SEA screening and scoping exercises.</p> <p><i>EPA WFD Application</i><br/>Our WFD Application provides a single point of access to water quality and catchment data from the national WFD monitoring programme. The Application is accessed through EDEN <a href="https://wfd.edenireland.ie/">https://wfd.edenireland.ie/</a> and is available to public agencies. Publicly available data can be accessed via the Catchments.ie website</p>  |  |
| 2 | <p><i>Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (Development Application Unit)</i></p> | <p>Summary of Issues raised in Submission</p> <p>Biodiversity</p> <ul style="list-style-type: none"> <li>• Include objectives to conserve and maintain key elements of biodiversity</li> <li>• To include commitments to undertake scientific research to improve and expand understanding of the significant effects that may arise.</li> <li>• Regarding Regulation 27 of the European Communities (Birds and Natural Habitats) Regulations, 2011 to incorporate such obligations into their plans and assessments.</li> <li>• To draw attention to Part 5 of the Birds and Natural Habitats Regulations (and to S177AE of the Planning and Development Acts) and the obligations these places in relation to screenings for appropriate assessment.</li> <li>• Significant publications:             <ul style="list-style-type: none"> <li>○ 2007, 2013 and 2019 Report on the Status of EU Protected Habitats and Species (also known as the Article 17 Report).</li> <li>○ 2013 Article 12 (Birds Directive) Reports.</li> <li>○ 2014 Ireland’s Prioritised Action Framework (PAF).</li> </ul> </li> <li>• Have biodiversity embedded in its core policies to help build a county that is a healthy place for its people and visitors and provide a fully functioning and resilient ecosystem.</li> </ul> | <p>Key recommendations arising from the submission;</p> <p>In the preparation of the draft Development Plan that Biodiversity and the National Biodiversity Action Plan, the principles of sustainable development, no net loss of biodiversity, low carbon society, the importance of an integrated approach to understanding the role of the environment and natural landscapes play in the quality of life indices, water quality, economic prosperity, food production, recreational opportunities, tourism visitors, sense of place and the overall</p> |

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|  |  | <ul style="list-style-type: none"> <li>• The use of Environmental Sensitivity Mapping during the preparation of the Plan and the use of the ‘Ecosystem Services Scoring’ approach to avoid impacts on Natura 2000 sites and nature conservation interests.</li> <li>• The Plan should avoid policies and objectives that undermine or are in direct conflict with natural heritage policies and objectives and should seek to provide a net gain for biodiversity wherever possible.</li> <li>• Objectives in relation to AA, EIA and related matters should be clear and concise.</li> </ul> <p>Natural Heritage</p> <p>Positive initiatives of note:</p> <ul style="list-style-type: none"> <li>• Publication of the Clare Biodiversity Action Plan (2017-2023).</li> <li>• Partnership with All Ireland Pollinator Plan (e.g., ‘Pollinator friendly’ management of Council managed lands in Ennis).</li> <li>• Clare Swift Survey 2020.</li> <li>• Provision of a specifically constructed bat house at Killaloe.</li> <li>• Bird usage mapping at Ballyallia Lake SAC / SPA.</li> <li>• Building spaces for nature.</li> <li>• On-going work by LAWPRO with regard to focus on specific Areas for Action (e.g., Doonbeg System).</li> <li>• Publicity of Heritage week and Biodiversity week.</li> <li>• Mountshannon White tailed sea eagles.</li> <li>• Green Flags for Parks’ provide opportunities for local council staff to network with other Councils</li> <li>• The impacts to biodiversity will best be facilitated through the preparation of an Ecological Impact Assessment (EclA), and recommends including this as an objective in the Plan.</li> <li>• To include an objective requiring data from surveys for preparation of EIAR, NIS, EclA to be submitted to the National Biodiversity Data Centre (NDBC).</li> <li>• A specific objective should be included in the Plan requiring that surveys for species protected under the Wildlife Acts, are included in all development and</li> </ul> | <p>distinctiveness and differentiation of localities as outlined in our national polices be considered and incorporated into the draft Development Plan.</p> <p>That the Council review the objectives in relation to Nature Conservation, Natural Heritage and other initiatives such as the “Green Flags for Parks” as outlined in the submission.</p> |
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|  |  | <p>maintenance proposals (e.g. road maintenance) where there is a reasonable likelihood of these species being present and affected by the development.</p> <p>Tourism</p> <ul style="list-style-type: none"> <li>• Tourism is a key economic pillar for Clare and so it should be a key objective of the County Development Plan Tourism Strategy to protect the environmental resource that tourism in Clare is reliant on.</li> <li>• The inclusion of requirements for screening for EIA and AA for traditional tourism related infrastructure (car parks, interpretive centres, walks) should be considered together with sustainable transport options (e.g., Park and ride from local village) and defined visitor carrying capacity.</li> <li>• The Plan includes policy to regulate activities of power propelled vehicles for recreational purposes that launch from council property within designated sites (SAC, SPA, NHAs and Wildfowl Reserves).</li> <li>• Furthermore, cumulative and in combination effects are particularly important in the assessment of effects to water catchments and their dependant species and the Plan should make it clear that these need to be accounted for in the environmental and ecological assessment of plans and projects.</li> <li>• The Plan recognises the potential for tourism and recreation related proposals to impact on habitats and species, and to ensure that these issues are addressed in both the Strategic Environmental Assessment (SEA), Appropriate Assessment (AA) for the Plan.</li> <li>• In the current Plan it states that tourism proposals should clearly identify the spatial extent of any tourism activities and should address the implications of increased recreational disturbance on any European sites. This should be highlighted and emphasised further in the new Plan.</li> </ul> | <p>Specific objectives relating to the Burren National Park, drainage and infilling of wetland sites, water quality, lighting and Invasive Alien Species are considered for inclusion in the draft Development Plan.</p> |
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|  |  | <p><b>Wetland Sites</b></p> <ul style="list-style-type: none"> <li>To highlight the importance of wetland (incl. blanket bogs, turloughs, lakes and fens) habitats within Clare.</li> </ul> <p><b>Lighting</b></p> <ul style="list-style-type: none"> <li>Recommends that ‘Lighting’ objectives are included within the plan both for town and rural areas where incorrect types or inappropriate use of LEDs can have an impact on bat species and other wildlife.</li> <li>To highlight the EUROBATS10 and Dark Sky lighting recommendations which provide further information on reducing the impact of lighting on wildlife and can also reduce carbon emissions.</li> </ul> <p><b>Invasive Alien Species (IAS)</b></p> <ul style="list-style-type: none"> <li>To highlight the threat of Invasive Alien Species (IAS) as one of the key pressures which increase biodiversity loss in Ireland.</li> <li>Recommends that specific objectives in relation to the containment and control of IAS in the context of development proposals is included in the plan which reference to the EC (Birds and Natural Habitats) Regulations, 2011.</li> <li>Continued initiatives to build on the work done as part of the Clare Invasive Alien Species Project (2009) should be considered within the objectives of the Plan.</li> </ul> <p><b>Renewable Energy</b></p> <ul style="list-style-type: none"> <li>An objective is included in the Plan that outlines commitments to undertake scientific research to improve and expand understanding of the significant effects that may arise.</li> <li>That the Plan acknowledges that the citing of wind energy other renewable developments in upland areas and renewable energy opportunities off-shore may be subject to significant environmental constraints.</li> <li>The on-going development of wind turbine sites in Mid-West Clare is a concern with</li> </ul> | <p>The Council will prepare a new Renewable Energy Strategy in the context of the progress in renewable energy technologies since the current strategy was developed and review of the potential for marine based renewable</p> |
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|  |  | <p>regard to ecological impacts on Hen Harrier (Annex I Bird).</p> <ul style="list-style-type: none"> <li>The Plan should have an objective to assess and gather all monitoring data for these sites so that the impacts can be assessed and made available for future projects which would contribute to the environmental assessment process.</li> </ul> <p>Unauthorised Developments and Planning Conditions</p> <ul style="list-style-type: none"> <li>Should have a clear objective where the planning enforcement system works effectively to ensure that sites are restored as required.</li> <li>A clear objective with regard to monitoring of planning conditions should be set out within the Plan.</li> </ul> <p>Improving And Developing Ecological Expertise</p> <ul style="list-style-type: none"> <li>It should be an objective of the plan to strengthen ecological expertise in the Council so that ecological understanding of threats and pressures are understood and appropriate management considered.</li> <li>That the integrated environmental assessments in relation to the Plan review apply the precautionary principal to ensure there is no further deterioration of habitats and species both within and outside designated sites across the county and in its zone of influence.</li> </ul> <p>Ecological Opportunities</p> <ul style="list-style-type: none"> <li>An objective for roads and transportation is included that all road maintenance and development shall have environmental quality measure that includes ecological integrity and no net biodiversity loss.</li> <li>It should also be an objective that any roads maintenance programme should undergo AA and EclA as appropriate.</li> <li>Greenway development can present threats and pressures to biodiversity through removal of vegetation during trail development. Would recommend that such proposals are subject to route/site selection processes to ensure that impacts to</li> </ul> | <p>energy technologies. A review of the Wind Energy Strategy is proposed subject to revised Wind Energy Guidelines being issued. In any review of the post consent monitoring and compliance data is to be used to inform the identification and designation of sites for future development.</p> <p>That the Council practice in terms of the maintenance and management of hedgerows and trees along the road network and the requirement for Nature Based Solutions in relation to road maintenance and development will be considered in preparation of the</p> |
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|  |  | <p>biodiversity and nature conservation interests are avoided.</p> <ul style="list-style-type: none"> <li>• Also notes the need to apply the precautionary principle when screening for Appropriate Assessment (AA) and/or undertaking AA for Greenways and Blueways.</li> <li>• The inclusion of a policy where all public buildings within the County incorporate positive biodiversity measures as standard practice. Actions can include simple measures, e.g. all new public buildings incorporate nesting boxes for swifts and/or bat boxes, etc.</li> <li>• An opportunity for the Council to enhance biodiversity by including policy objectives, for example, to map the extent of hedgerows in the County using the ecosystems scoring approach to identify gaps in these corridors and include a pollinator plan for the County with particular attention to roadside verges, roundabouts and Council lands.</li> <li>• That flood protection and alleviation works must be subject to environmental assessment.</li> <li>• Provide for flood protection measures to be delivered in a planned and strategic manner subject to environmental assessment.</li> <li>• Acknowledge that climate change mitigation and adaptation actions can, at times, conflict with nature conservation interests and due consideration to environmental constraints should be given.</li> <li>• A clear and specific monitoring plan to be included with the Strategic Environmental Report that would clearly outline how it is proposed to record the impacts of plan implementation on biodiversity.</li> </ul> | <p>draft Development Plan and objectives incorporated where appropriate.</p> <p>That the distinction between Green Infrastructure and Greenways and Blueways will be addressed in the plan together with objectives relating to them.</p> <p>The inclusion of a policy which will support all public buildings within the County to incorporate positive biodiversity measures as standard practise</p> <p>That policy support for Agricultural and Forestry related schemes which provide a biodiversity benefit to the county are considered in the context of protecting ecological corridors in the County.</p> <p>That Climate Change and Flood Alleviation inform all chapters, policies and objectives within the County Development Plan and will be at the heart of its vision.</p> <p>That the objectives relating to Climate Adaptation take precedence in the plan over mitigation as outlined in the Clare Climate Change</p> |
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|    |                                     |   | <p>Adaptation Strategy and also within the Department’s Biodiversity Climate change Sectoral Adaptation Plan – 2019.</p> <p>That a more robust and meaningful approach to monitoring the effectiveness or otherwise of the plan is developed as part of the draft Development Plan process.</p> <p>Best available information and data held by Clare County Council and/or obtained through the data collection exercise was utilized to inform the SEA assessment of the land use zonings and based on the precautionary principle proposed recommended alterations and/or exclusions to zonings to avoid significant negative effects.</p> <p>Additional environmental protection objectives were included in Chapter 14</p> |
| 03 | <i>Geological Survey of Ireland</i> | <p>Geoheritage</p> <p>Welcomes the mention of geological sites within the ‘Built and Natural Heritage, Landscape and Green Infrastructure’ section of the issues paper. Would encourage the inclusion of County Geological Sites (CGSs) as specific policy objectives within the new County Development Plan.</p> | <p>Utilise the GSI data sources to inform the review of the County Development Plan and the associated</p>   |



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|  |  | <p>CGS's have been included in the <i>Clare County Council Development Plan 2017- 2023 Chapter 14</i>, and more specifically 'Objective CDP14.5'.</p> <p>The following points are suggestions to protect geological heritage:</p> <p>As a minimum, would like to include a policy objective with wording such as:<br/> <i>"to protect from inappropriate development the scheduled list of geological heritage sites."</i><br/>         Or<br/> <i>"to protect from inappropriate development the following list of County Geological Sites"</i></p> <p>Listing in the CDP provides protection of the sites against potentially damaging developments that normally require planning permission, such as building, quarrying, landfilling or forestry.</p> <p>CGSs have been adopted in the National Heritage Plan and will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures.</p> <p>Important to note that management issues for the majority of geological heritage sites may differ from ecological sites. Consultation at the earliest stages can identify any issues relevant to an individual site or proposed development.</p> <p>Include a policy objective to protect geological NHAs.<br/>         Culture and Tourism</p> <p>Ireland currently has three UNESCO Global Geoparks, including the Burren and Cliffs of Moher Global Geopark, which has retained its UNESCO Global Geopark status for another four years. Would encourage continued use of geological audit information making it available to the general public. Encourage geology to be part of any tourism initiative such as the Loop Head Visitor Experience Development Plan (VEDP) on which GSI recently made a statutory submission (our ref 20/220).</p> <p>Dimension Stone/Stone Built Ireland<br/>         There is a research collaboration agreement between GSI, TCD &amp; OPW, to run for a 2 year period to document building and decorative stone in</p> | <p>Environmental Assessments.</p> <p>The draft Development Plan will support partnerships with landowners, local communities and other relevant stakeholders where appropriate.</p> |
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|  |  | <p>Ireland. Also aid the public in complying with part 4 of the P&amp;D Act 2000, which requires owners to conserve protected structures. Also assists with Section 57 Declarations.</p> <p><b>Geological Mapping</b><br/>The geological mapping programme creates maps that depict the rocks and subsoils of the onshore area of Ireland. These data sets include depth to bedrock data and subsoil classifications. We would encourage you to use this data in any planned SEA reports and for your future CDP.</p> <p><b>Groundwater</b><br/>Recommend the use of our National Aquifer, Vulnerability and Recharge maps within the CDP. Further information is available on our Map viewer. With regard to Flood Risk Management, there is a need to identify areas for integrated mitigation and management. Our GW Flood project is a groundwater flood monitoring and mapping programme aimed at addressing the knowledge gaps surrounding groundwater flooding in Ireland. This is primarily focused on karst areas such as those located in Co. Clare, which will provide vital information to benefit the CDP. We recommend using our GW Flood tools found under our programme activities (in conjunction with OPW data) to this end.<br/>The Geological Survey Ireland has established the GW Climate project in January 2020. This will:</p> <ul style="list-style-type: none"> <li>a) Establish a long-term strategic groundwater level monitoring network and</li> <li>b) Develop modelling and analytical approaches for evaluating the impacts of Climate Change to Irish groundwater systems.</li> </ul> <p><b>Geohazards</b></p> <ul style="list-style-type: none"> <li>a) Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. Information available on past landslides for viewing as a layer on our Map Viewer.</li> <li>b) Also engages in national projects such as Landslide Susceptibility Mapping and Groundwater Flooding (GW Flood), and in international projects, such as the Tsunami Warning System, coordinated by the Intergovernmental Oceanographic</li> </ul> |  |
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|  |  | <p>Commission of UNESCO. Recommend that geohazards and particularly flooding be taken into consideration and encourage the use of our data when doing so.</p> <p>Geothermal Energy</p> <ul style="list-style-type: none"> <li>• Geothermal energy harnesses the heat beneath the surface of the Earth for heating applications and electricity generation. Recommend use of our Geothermal Suitability maps to determine the most suitable type of ground source heat collector for use with heat pump technologies. The Geothermal Suitability maps could also be considered in as part of the Renewable Energy Potential for the CDP.</li> <li>• Ireland also has recognised potential for 'deep' (&gt;400m) geothermal resources. Currently completing a roadmap for geothermal energy use in Ireland which is expected to be published in 2020.</li> </ul> <p>We welcome the reference to mineral locations and aggregate potential in Section 3.7.</p> <p>The Active Quarries, Mineral Localities and the Aggregate Potential maps are available on our Map Viewer. Would welcome the consideration of aggregate potential sterilisation included as part of the scoping document.</p> <p>Marine and Coastal Unit<br/>GSI's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages INFOMAR, Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector. In relation to tourism have an extensive database of shipwrecks mapped by the INFOMAR programme. INFOMAR also produces a wide variety of seabed mapping products. Would recommend use of our Marine and Coastal Unit datasets available on our website and Map Viewer.</p> <p>The Marine and Coastal Unit also participate in coastal change projects such as CHERISH (Climate, Heritage and Environments of Reefs, Islands, and Headlands) and are undertaking mapping in areas such as coastal vulnerability and coastal erosion.</p> |  |
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**Table 2.2 Key Environmental Issues raised in relation to the SEA and appropriate assessment at Scoping Stage**

Pre-draft development plan submissions were sought in accordance with the Planning and Development Act 2000, as amended on the Issues Paper as published on the 18<sup>th</sup> of September 2020. Notwithstanding the restrictions placed on holding public events and meetings due to Covid 19, the level of engagement at this stage of the process was high with a total of 212 submissions received; 12 of these related to zoning and were therefore considered invalid and 6 were received after the closing date. Thus, a total of 194 valid submissions were received and considered in the Chief Executives report. The SEA Team reviewed the relevant submissions and provided input in terms of opinion and recommendations for the Chief Executive to consider. The submissions were split into those received from the Office of the Planning Regulator and the Southern Regional Assembly both of which will heavily influence the preparation of the SEA and therefore the Plan itself and all other valid submissions received. The following **Table 2.3** provides a summary of the key topics contained in the submissions. Given the high number of submissions received it is not possible to provide a complete summary within the SEA Environmental Report however, the full summary together with the recommendations can be accessed through the Chief Executives Report through the following link; <https://clarecdp2022-2028.clarecoco.ie/stage1-predraft/report-consultation/> .

| Issues Paper Submission Analysis                          |                    |                  |
|---|--------------------|------------------|
| Topic   | No. of Submissions | % of Submissions |
| Towns & Villages  | 70                 | 36%              |
| Transport   | 67                 | 34.50%           |
| Wind Energy   | Total = 59         | Total = 30%      |
| Community Facilities Inclusive Communities                | 55                 | 28%              |
| Other Renewable Energy                                    | 36                 | 18.50%           |
| Housing   | 35                 | 18%              |
| Economic Development (General - Ch 4)                     | 33                 | 17%              |
| Tourism   | 32                 | 16.50%           |
| Climate Change, Climate Action & Low Carbon               | 32                 | 16.50%           |
| Water Resources<br>Water Supply &<br>Wastewater Treatment | 31                 | 16%              |
| Biodiversity, Natural Heritage & Green Infrastructure     | 28                 | 14.50%           |
| Core Strategy   | 28                 | 14%              |
| Greenway  | 25                 | 13%              |
| Design & Built Environment                                | 24                 | 12.40%           |
| Active Travel   | 23                 | 12%              |
| Communications  | 22                 | 11%              |
| Land-Use Zoning Definitions<br>Indicative Matrix          | 20                 | 10.30%           |

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|---|----|-------|
| Flooding                                      | 17 | 8.80% |
| Rural Development                             | 16 | 8%    |
| Waste Management                              | 14 | 7%    |
| Single Rural House                            | 11 | 6%    |
| Archaeology, Architecture & Cultural Heritage | 11 | 5.70% |
| Moneypoint                                    | 9  | 4.60% |
| Development Management Guidelines             | 8  | 4.10% |
| Landscape & Visual Impact                     | 8  | 4%    |
| Vision  | 6  | 3%    |
| Settlement Hierarchy                          | 6  | 3%    |
| Energy Network                                | 6  | 3%    |
| Shannon Estuary                               | 6  | 3%    |
| Marine & CZM                                  | 6  | 3%    |
| Infrastructure General                        | 5  | 2.50% |

**Table 2.3 Summary of submissions received at Pre-Draft Stage in relation to consultation on the Issues Paper.**

As can be seen from the stats provided in **Table 2.3** a significant number of submissions related to 4 key areas.

- Biodiversity, Natural Heritage & Green Infrastructure
- Climate Change, Climate Action & Low Carbon
- Other Renewable Energy
- Wind Energy

This reflects the three major crises facing the world today: ***the loss of biodiversity, climate change and the COVID-19 pandemic***. They are all interrelated, with many of the same causes and solutions. The Intergovernmental Panel on Biodiversity and Ecosystem Service (IPBES) has published its global assessment on the state of the world’s biodiversity and ecosystem services.

The report shows that nature is declining globally at rates unprecedented in human history — and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely. The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our and future generation’s economies, livelihoods, food security, health, and quality of life worldwide.

And the link to sustainable development is clear. Current negative trends in biodiversity and ecosystems are undermining progress towards 80% of the assessed targets of the Sustainable Development Goals, related to poverty, hunger, health, water, cities, climate, oceans, and land. Loss of biodiversity is shown to be not only an environmental issue, but also a developmental, economic, security, social and moral issue as well.

The Report also stresses that it is not too late to make a difference, but only if we start now at every level from local to global. The report concludes that *“Through transformative change, nature can still*

*be conserved, restored and used sustainably – this is also key to meeting most other global goals. By transformative change, the report means a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”*

The submissions received reflect the sentiments of our county citizens and the changes they want to see being made at a local level. Local Government now has an opportunity to have a real and effective role to play in halting biodiversity loss, reversing Climate Change and learning from the COVID-19 pandemic. These submissions are invaluable and will serve to frame the new Clare County Development Plan 2023-2029 in such a way that biodiversity and climate change are embedded into the very fabric of every policy and objective commencing with the overall Vision for the county.

### 2.2.3 Environmental Report

The content of the Environmental Report is set out in accordance with Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended 2011, as set out in Table 2.2.

**Table 2.4 Structure of Environmental Report in compliance with Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended.**

| Schedule 2B Information Requirement  | Environmental Report   |
|--|--|
| (a) An outline of the contents and main objectives of the plan and relationship with other relevant plans  | <b>Chapter One</b> – Introduction<br><b>Chapter Two</b> - SEA Methodology<br><b>Chapter Three</b> – Clare County Development Plan 2023-2029<br><b>Chapter Four</b> – 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   | <b>Chapter Five</b> – Environmental Baseline   |
| (c) The environmental characteristics of areas likely to be significantly affected   | <b>Chapter Five</b> – Environmental Baseline   |
| (d) Any existing environmental problems which are relevant to the plan including those in relation to any areas of particular environmental importance, such as areas designated pursuant to the Birds Directive of Habitats Directive.                    | <b>Chapter Five</b> – Environmental Baseline   |
| (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 considered during its preparation. | <b>Chapter Six</b> – Strategic Environmental Objectives  |
| (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                                  | <b>Chapter Eight</b> – Assessment of Effects of Implementing the Clare County Development Plan 2023-2029.  |

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| architectural and archaeological heritage, landscape and<br>(g) the inter-relationship between the above factors.  | <b>Chapter Five</b> – Environmental Baseline and in each section as arises. |
| (h) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan.   | <b>Chapter Nine</b> - Mitigation  |
| (i) An outline of the reasons for selecting the alternatives dealt with and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information | <b>Chapter Seven</b> – Development and consideration of Alternatives        |
| (j) A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan   | <b>Chapter Ten</b> - Monitoring   |
| (k) A non-technical summary of the information provided under the above headings   | This is provided as a separate document to the Environmental Report.        |

The Environmental Report incorporates the following key elements:

**Baseline Data** - The baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation, and subsequent monitoring of the effects of the Plan. Thus, this information creates a platform whereby existing problems relevant to the Plan area can be quantified (where possible) or qualified thereby ensuring that the implementation of the Plan does not exacerbate these problems.

Baseline data has been collected based on the various broad environmental topics described in the SEA Directive and Regulations (as amended), i.e., population, biodiversity, fauna, flora, soil and geology, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape and the interrelationship between these factors. The Directive and Regulations (as amended) 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 in positive and negative terms, where applicable. The baseline data was collated from currently available, relevant data sources and includes information suggested in submissions on the SEA scoping process.

**Environmental Assessment of the County Development Plan** - The principal component of the SEA involves a broad environmental assessment of the objectives (including zoning objectives) of the Development Plan. A methodology that utilises the concept of expert judgement, competent ecologists and flood risk experts, public consultation, GIS and matrices, both to assess the environmental impact and to present the conclusions has been adopted in this SEA. Key to assessing the objectives of the Clare County Development Plan 2023-2029 is setting a specific set of environmental objectives for each of the environmental parameters listed in the SEA Directive and Regulations (as amended). These



Strategic Environmental Objectives (SEOs) are outlined in **Chapter 6**. The policies/objectives and zonings of the Clare County Development Plan 2023-2029 are then assessed against the SEOs in **Chapter 8** and a discussion is provided, where relevant, on the significance and type of the identified impact in accordance with current guidelines.

**Consultation - Planning Authority Team** - A multi-disciplinary team was established to prepare the Clare County Development Plan 2023-2029, Strategic Environmental Assessment, Strategic Flood Risk Assessment and Natura Impact Report and to examine the significant environmental impacts which may result from the implementation of the Plan. Consultation took place with several internal Departments and Directorates within Clare County Council including Physical (Environment and Water Services), Rural (Community and Tourism) and Social (Housing) together with extensive consultation with Irish Water throughout the preparation of the Clare County Development Plan 2023-2029. This enhanced the identification of environmental issues.

**Integration of the County Development Plan, Strategic Environmental Assessment and Appropriate Assessment Processes** - The SEA legislation and guidelines highlight the importance of the integration between the preparation of the Development Plan and the SEA and AA processes. **Table 2.3** shows how the processes have been integrated throughout. The iterative nature of the SEA process is such that the County Development Plan is informed by environmental considerations throughout the preparation of the Plan and the development of the Plan objectives and land-use zonings. The Natura Impact Report is a separate document to the Environmental Report both of which accompany the County Development Plan.

**Table 2.5 The integrated processes of preparation and consultation for the Clare County Development Plan 2023-2029, Strategic Environmental Assessment and Appropriate Assessment**

| Clare County Development Plan 2023-2029  | Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA)   | Strategic Flood Risk Assessment (SFRA)  |
|--|--|---|
| Commence preparation of Draft Plan<br><br>Pre-Draft Consultation Period<br><br><b>18<sup>th</sup> September 2020 – 16<sup>th</sup> November 2020</b>   | Commence review and preparation of SEA Scoping Process<br><br>Pre-Draft Consultation Period<br><br><b>18<sup>th</sup> September 2020 – 16<sup>th</sup> November 2020</b> | Commence review and preparation of flood maps<br><br>Pre-Draft Consultation Period<br><br><b>18<sup>th</sup> September 2020 – 16<sup>th</sup> November 2020</b> |
| Commencement of public display and invitation of submissions on Draft Plan, Environmental Report, Natura Impact Report and Stage 2 Flood Risk Assessment<br><b>December 2021</b><br>Closing date for public submissions on Draft Plan<br><b>March 2022</b> |  |   |
| Chief Executives Report on Submissions received to Draft Plan, Environmental Report, Natura Impact Report and Stage 2 Flood Risk Assessment (for Elected Members)<br><b>June 2022</b>  |  |   |
| Consideration of Chief Executive's Report by Elected Members (resolve to alter or make, amend or revoke Draft Plan, Environmental Report, Natura Impact Report and Strategic Flood Risk Assessment)<br><b>March 2022</b>                                   |  |   |
|  | Determination of Requirement for SEA/AA in accordance with S.12 of the Planning & Development Act (within 2 weeks of resolution) <sup>1</sup>                            |   |
| Public Display of Amendments to Draft Plan and consultation period<br><br><b>April 2022</b>  | Public Display of Amendments to Environmental Reports and consultation period<br><b>April 2022</b>   | Public Display of Amendments to Strategic Flood Risk Assessment and consultation period<br><b>April 2022</b>  |
| Submission of Chief Executive's Report to Members on submissions on the proposed material alterations to the Draft Plan, Environmental Report Addendum, Natura Impact Report and Strategic Flood Risk Assessment<br><b>June 2022</b>                       |  |   |
| Consideration of Chief Executives Report by Elected Members (resolve to make, amend or revoke Draft Plan, Environmental Report, Natura Impact Report and strategic Flood risk Assessment)<br><b>March 2023</b>   |  |   |
| Clare County Development Plan 2023-2029 comes into effect 4 weeks after adoption, accompanied by the Environmental Report and SEA Statement and the Natura Impact Report<br><b>April 2023</b>  |  |   |

**Consideration of Alternatives** - Article 5 of the SEA Directive specifies that the Environmental Report should consider 'reasonable alternatives taking into account the objectives and geographical scope of the plan or programme'.

The Strategic Environmental Assessment Regulations 2004 (S.I. No. 436 of 2004) (as amended) also require the environmental report to include 'an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information (Schedule 2B)'.

The identification and assessment of alternatives is a key function of the SEA process and one which commenced at the earliest stage in the process of plan-making. It is likely the range of alternatives

evolve as the process progresses which require evaluation in terms of the likely environmental consequences of alternative development strategies for the Plan area within the constraints imposed by environmental conditions. The Plan is based on the principles of sustainable development and in applying these principles **Chapter 7** presents the process of identifying and assessing the alternatives considered in the plan making process which culminated in identifying the preferred development scenarios for the Plan.

**Mitigation** - This stage provides information on the mitigation measures necessary to minimise/eliminate any significant adverse impacts due to the implementation of the Plan. Section (g) of Schedule 2B of the SEA Regulations (as amended) require information on the mitigation measures that will be put in place to minimise or eliminate any significant adverse impacts due to the implementation of the Clare County Development Plan 2023-2029. Mitigation measures and methods of offsetting potential impacts have been proposed during the preparation and review of the Plan. This has resulted in objectives and policies which are more robust and environmentally sustainable. **Chapter 9** details the mitigation measures necessary to prevent, reduce, and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan.

**Monitoring** - Under Article 10 of the SEA Directive and Section (i) of Schedule 2B of the SEA Regulations (as amended), monitoring is required to identify at an early stage any unforeseen adverse effects caused by the implementation of the Plan. Monitoring provides for any issues to be identified and where these are of concern, then for consideration of mitigation measures to be identified. Monitoring also allows for additional baseline information to be gathered which will inform progress of the Plan and its future review. **Chapter 10** of this report sets out the monitoring measures for the Clare County Development Plan 2023-2029. The schedule of monitoring identifies a series of targets and indicators in relation to each Strategic Environmental Objective, which will allow for detection and evaluation of any environmental change, both positive and negative, as a consequence of the implementation of the Plan. Where negative environmental effects are detected, it may be necessary to consider additional mitigation measures to off-set these effects.

#### 2.2.4 SEA Statement - Information on Decision

Following the adoption of the Plan the competent authority is required to make available the adopted County Development Plan and a statement setting out relevant “Information on the Decision” as set out in Article 9 of the SEA Directive and by Article 13 of the Planning and Development Regulations 2001 (as amended) as amended by Article 7 of the SEA Regulations in relation to Development Plans.

Section 13 of the SEA Regulations 2004 (as amended) and the SEA Directive require that the Environmental Report accounts for the opinions expressed by the public, statutory consultees, any other stakeholders, and the outcome of any trans-boundary consultation. In turn this must be considered during the preparation of the Plan and prior to its final adoption. This detail is presented in the ‘Information on Decision’ also known as the SEA Statement. The SEA Statement will illustrate how decisions were taken, making the process more transparent.

#### 2.2.5 Geographical Information Systems

The use, and application, of GIS will be considered where possible at the various key stages in the SEA process. GIS will, along with other methodologies, and depending on the availability of relevant spatial data, assist in determining the cumulative vulnerability of various environmental resources within the

plan area. GIS will also demonstrate visually how the Plan might impact on the plan area resources. In undertaking the SEA, all the environmental data and information presented on the GIS based maps will be considered.

Clare County Council's GIS system is utilised to collate the data into an operational database allowing the development of individual and/or combined environmental parameter maps and variations of these maps for the Plan area at various stages and scales. This baseline information and existing environmental data together with the SEOs, which are outlined in Chapter 5 and 6, has helped to identify, describe, and evaluate the likely significant environmental effects of implementing the Clare County Development Plan 2023-2029 and determine appropriate mitigation and monitoring measures. In addition, as has been highlighted in the scoping submission received from the EPA several GIS Data viewers have been progressed since the publication of the 2017 Plan which include the following;

- *Environmental Sensitivity Mapping (ESM) Webtool*
- *EPA SEA WebGIS Tool*
- *EPA WFD Application*
- Draft LARES viewer

### **2.3 Data Information Gaps**

During the SEA review process, no new research was undertaken, and information was gathered from existing sources of data. It should be noted that there are several areas where data were not readily available and/or in an appropriate format. These issues are discussed under the relevant sections in **Chapter 5** and where possible recommendations are made. Clare County Council appreciates the importance of monitoring data to inform environmental assessments and the lack of a centralised data storage facility from which to extract this information arising from a variety of Plans and Programmes together with Planning Applications at a Local Authority level. To try and address this, Clare County Council has established an Environmental Database within which to capture such information at a county level. This environmental database had been interrogated to inform the Environmental Assessments.



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|--|---|
|  | <p>outcomes over the course of successive County Development Plans.</p> <p>The implementation and monitoring framework for the Plan is set out in Section 20.4 of Volume 1 of the CDP.</p> <p>The framework reflects the Vision for the County Development Plan and the Strategic Development Plan Principles that support its delivery. The Vision and Strategic Development Plan Principles are broadly aligned with the Regional Strategic Outcomes of the RSES, the National Strategic Outcomes of the NPF, and the United Nations Sustainable Development Goals.</p> |
| <p>Refer to Clare County Council’s responsibilities and obligations in accordance with all national and EU environmental legislation. It is a matter for Clare County Council, to ensure that, when undertaking and fulfilling their statutory responsibilities, they are at all times compliant with the requirements of national and EU environmental legislation.</p> | <p>Yes.</p>   |
| <p>Make available a copy of the SEA Statement for public inspection at the Local Authority offices, local authority website and also notify any Environmental Authorities consulted during the SEA process.</p>  | <p>This will be done following adoption of the Development Plan.</p>  |

## Chapter Three – Clare County Development Plan 2023-2029

### 3.1 Introduction

The Clare County Development Plan 2023-2029 sets out an overall strategy for the proper planning and sustainable development of the functional area of Clare County Council over a 6-year period. Development Plans comprise a written statement supported by maps indicating the development objectives for the area in question, including several mandatory objectives. Clare County Council is required to prepare and adopt a County Development Plan every 6 years. Not later than 4 years after the adoption of the Development Plan, the Council is required to review its existing Development Plan and commence the preparation of a new one.

The Clare County Development Plan 2023-2029 governs the functional area of Clare County Council. It replaces the Clare County Development Plan 2017-2023 (as amended) and it is the eight Clare County Development Plan since 1964.

### 3.2 Format and Content of the Clare County Development Plan 2023-2029

The Clare County Development Plan 2023-2029 considers the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy for the Southern Region (RSES), planning guidelines, strategies and policy documents. It is also informed by national and global environmental issues that are accepted as being critical to the formulation and implementation of sustainable development. They include climate change, flooding, renewable and alternative energy. In addition, the Clare County Development Plan 2023-2029 has been prepared in compliance with the requirements of the Strategic Environmental Assessment Directive (2001/42/EC) and the EU Habitats Directive (92/43/EEC).

The Clare County Development Plan 2023-2029 has regard to other relevant local policy documents. The objectives contained in the County Development Plan complement the goals and aims of the Clare Local Economic and Community Plan 2016-2021 and the Clare County Council Corporate Plan. Moreover, the development plan commits to equality, accessibility, and gender proofing throughout the preparation of the Plan, policy formation and its implementation.

The format of the Clare County Development Plan 2023-2029 reflects the challenges and opportunities facing the County over the period of the plan as well as the specific and unique issues pertaining to land-use and the socio-economic development of the County.

The Clare County Development Plan 2023-2029 is the primary policy document for planning policy throughout the functional area of Clare County Council. The plan also contains settlement plans for all of the towns and villages in the County, with the exception of Shannon town. The Metropolitan Town of Shannon has its own dedicated local area plan which contains the zonings for the town. A new Shannon and Environs Local Area Plan will be prepared for Shannon Town and Environs during the life of this plan. This provides the user with a simplified and user-friendly approach to land-use and planning in the County.

The Clare County Development Plan 2023-2029 consists of 10 volumes, as follows:



**Volume 1 - Written Statement**

This contains the written text and constitutes the main body of the document outlining the vision, Core Strategy and objectives for the different policy areas addressed by the development plan. The development plan contains the mandatory objectives as required by the Planning and Development Act, 2000 (as amended), as specified in Section 1.1.1 above.

**Volume 2 - Maps**

This volume contains all the large maps, on a county scale, referred to in Volume 1 and which give effect to the designations as contained in the written statement.

**Volume 3 – Municipal District Written Statement and Maps**

This volume contains individual settlement plans and land use zoning details for each of the towns and villages in the municipal districts of the County as follows:

Volume 3(a) – Ennis Municipal District Written Statement and Maps

Volume 3(b) – Shannon Municipal District and Limerick-Shannon Metropolitan Area Written Statement and Maps

Volume 3(c) – Killaloe Municipal District Written Statement and Maps

Volume 3(d) – West Clare Municipal District Written Statement and Maps

**Volume 4 - Record of Protected Structures**

A Protected Structure is a structure that is of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social and technical point of view. Details of all Protected Structures in County Clare are entered in this Record of Protected Structures.

**Volume 5 – Clare Renewable Energy Strategy**

This volume outlines the renewable energy resource that is deliverable within County Clare including issues such as micro-renewable energy and energy storage.

**Volume 6 – Clare Wind Energy Strategy**

This volume comprises a detailed County-wide Wind Energy Strategy, supplemented by maps which set out Clare County Council's strategy for informing wind energy development, having regard to economic, environmental, and visual issues.

**Volume 7 – Retail Strategy for Limerick-Shannon Metropolitan Area and County Clare**

This volume comprises the Retail Strategy for County Clare, and the Limerick-Shannon Metropolitan Area which is intended to provide a strategic county wide approach to achieving a balance in retail development.

**Volume 8–Clare County Housing Strategy and Housing Need Demand Assessment**

This volume comprises a Housing Strategy and Housing Need Demand Assessment, prepared in accordance with Part V of the Planning and Development Act, 2000 (as amended).

### Volume 9 – Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary

This volume comprises the SIFP, an inter-jurisdictional land and marine-based framework to guide the future development and management of the Shannon Estuary.

### Volume 10 Environmental Appraisal of the Plan

This volume of the plan comprises a suite of environmental assessments, in full compliance with the requirement of the Habitats Directive, the Strategic Environmental Assessment Directive and the Floods Directive as follows:

|                 |  |
|-----------------|--|
| Volume 10a      | Natura Impact Report                                       |
| Volume 10b(i)   | Strategic Environmental Assessment – Non-Technical Summary |
| Volume 10b(ii)  | Strategic Environmental Assessment – Environmental Report  |
| Volume 10b(iii) | Strategic Environmental Assessment - Statement             |
| Volume 10c      | Strategic Flood Risk Assessment                            |

#### 3.2.1 Vision for County Clare

***To provide for the development of County Clare as a place to be part of and proud of, where urban and rural communities enjoy a high quality of life, work practice choice, inclusivity and service access, where Clare is a dynamic, resilient, connected and internationally competitive location for innovation and investment and is a national leader in climate action, creativity, culture, heritage, tourism and environmental management.***

#### Goals

The following 20 chapters set out the planning policy framework within which the vision set out above will be realised by 2028. Each chapter identifies a key goal supported by strategic aims and objectives. It is through the delivery of these goals that this common vision for County Clare will be realised. The key goals are:

Goal I: A County Clare that is resilient to climate change, plans for and adapts to climate change adaptation and flood risk, is the national leader in renewable energy generation, facilitates a low carbon future, supports energy efficiency and conservation and enables the decarbonisation of our lifestyles and economy.

Goal II: A County Clare that drives local and regional sustainable growth by harnessing the potential of its unique location, quality of life, natural resources and other competitive advantages.

Goal III: A County Clare with strong and balanced urban and rural areas providing key services and a good quality of life and where people with social or economic requirements to live in the countryside are accommodated.

Goal IV: A County Clare with high quality housing at appropriate locations throughout the County, ensuring the development of a range of house types, sizes and tenures to accommodate differing household needs, promote sustainable communities, social integration and inclusion and facilitating a sense of place.

Goal V: A County Clare in which jobs and people are brought together and where the sustainable growth of employment, indigenous enterprise and economic activity is pursued proactively across all economic sectors throughout the County.

Goal VI: A County Clare with viable and vibrant town and village centres, that have shopping areas and markets at appropriate scales and locations and which function to serve their communities and rural hinterlands.

Goal VII: A County Clare with diverse and strong rural communities and economy, where its natural resources are sustainably managed in a manner that is compatible with the sensitivity of rural areas and the existing quality of life.

Goal VIII: A County Clare in which tourism growth continues to play a major role in the future development of the County. A County which is the gateway to the west, delivering tourism experiences which reflect our strong commitment to sustainability, connectivity, innovation and new approaches to doing business. A place that is globally recognised as a sustainable destination and where the benefits of tourism are spread across the County throughout the seasons.

Goal IX: A County Clare where healthy and sustainable communities are developed and integrated with the timely delivery of a wide range of community, educational and cultural facilities and where, through a commitment to equality, participation, accessibility and social inclusion, the County develops as a unique location with an enhanced quality of life for its citizens and visitors.

Goal X: A County Clare that supports strong economic growth and a high quality of life for all residents through the provision of efficient and robust physical infrastructure whilst having regard to environmental responsibilities and complying with European and National legislation.

Goal XI: A County Clare that builds on the strategic location and natural resources of the Shannon Estuary by facilitating and maximising its potential for various forms of development while managing the estuarine and natural environment in full compliance with all relevant EU Directives.

Goal XII: A County Clare that maximises and manages the economic, social and recreational potential of the Atlantic Coastline and Shannon Estuary while protecting the coastal zone and its resources and adapting to and managing the challenges of climate change including flooding and sea-level rise.

Goal XIII: A County Clare of ‘living landscapes’ where people live, work, recreate and visit while respecting, managing and taking pride in the unique landscape of the County

Goal XIV: A County Clare that protects and enhances the County’s unique natural heritage and biodiversity and recognises the potential for sustainable green infrastructure development, while promoting and developing its cultural, educational and eco-tourism potential in a sustainable manner.

Goal XV: A County Clare that affords protection and conservation to buildings, areas, structures, sites and features of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest and recognises them as a social, cultural and economic asset to the County.

Goal XVI: A County Clare with a strong and vibrant network of towns and villages that provide a wide range of services and a high quality of life for residents of the County.

**Goal XVII:** A County Clare that promotes buildings, urban spaces and public realm of the highest quality and ensures all development adheres to the principles of good design and contributes to the establishment of distinctive buildings and areas with a ‘sense of place’.

**Goal XVIII:** A County Clare where the overall strategic objectives of the County Development Plan are translated into settlement plans and local area plans containing detailed land-use zonings and master-planning of neighbourhoods in an evidence-based, plan-led approach with a focus on ensuring a high quality of life.

In addition to the Goals below are five Strategic County Outcomes which are entirely interrelated and in combination can deliver the overall Development Plan Vision over the lifetime of the Plan. Creation of a livable, connected and compact County will in turn lead to a climate resilient sustainable County which will be inclusive create the opportunities for economic growth and a good quality of life.

**Table 3.1 Five Strategic County Outcomes**

|                        |  |
|------------------------|--|
| <b>Quality of Life</b> | Mental and physical health is affected by the environment in which we live. Access to sustainable transport, housing, quality placemaking, green space and community infrastructure can have a significant influence on quality of life, health and wellbeing of all.  |
| <b>Sustainability</b>  | The Concept of sustainable development can be defined as “development which meets the needs of today without compromising the ability of future generations to meet their own needs”. Sustainable development is one of the major challenges facing society. How and where we live, work and take makes demands on the earth’s resources. This Plan adopts the principle of sustainability by promoting and encouraging the integration of economic, environmental, social and cultural issues into policies and objectives to ensure the needs of urban and rural communities are met. Any reference to development in this plan should be considered to refer to sustainable development.  |
| <b>Climate Action</b>  | It is recognised that the County Development Plan has a key role in supporting the delivery of meaningful action on climate change through the implementation of the NPF compact growth agenda at the local level; the integration of land-use and transportation; and in the sustainable management of our environmental resources including biodiversity. Climate action is thus an important strategic objective of the County Development Plan which is reflected by the introduction of a new stand-alone Chapter relating to Climate Action (see Chapter 2) in addition to other climate action related Objectives which permeate throughout the Plan. The County Development Plan in conjunction with the Clare County Council Climate Change Adaptation Strategy 2019-2024 in effect provides a framework for the transition towards a low carbon and more climate resilient County. |

|                    |  |
|--------------------|--|
| <b>Resilience</b>  | Resilience is a principle that also underpins the Plan and is described as ‘the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions’. (United Nations Office for Disaster Risk Reduction (UNISDR), 2009). It is built into the strategic policies and recommendations of each of the cross-cutting themes: quality of life, sustainability, climate action, and inclusivity |
| <b>Inclusivity</b> | Inclusivity affects the wellbeing of individuals, families, social groups and communities. Creating a more socially inclusive society by alleviating social exclusion, poverty and deprivation is a major challenge. Steps towards achieving a more socially inclusive society include the provision of good quality affordable housing, community infrastructure and improving access to information and resources.   |

### 3.2.3. The Role of Local Government and the County Development Plan 2023 – 2029

The Local Government Act 2001 (as amended) sets out the functions of Local Authorities. It recognises that one of the roles of a local authority is to provide a forum for the democratic representation of its citizens and to provide civic leadership for that community.

Given the extensive public consultation afforded to the making of a development plan and that its adoption is the function of the Elected Members, it has been described as a ‘contract’ between the Council and the public. This Plan is therefore an agreed blueprint for the economic, social, cultural, and environmental development of County Clare. It provides the platform for Clare County Council to ascertain and communicate to other public authorities the views of its citizens in relation to those functions performed by other authorities which affect the interests of County Clare.

### 3.2.4. Proper Planning and Sustainable Development

When making a development plan, the Planning and Development Act 2000 (as amended) requires Planning Authorities to consider the proper planning and sustainable development of the area. While there is no definition of the term in the Acts, for the purposes of this Plan, proper planning and sustainable development is defined as “*achieving the correct balance of economic, social, cultural and environmental considerations in the interests of the common good and securing long term benefits to County Clare.*”

### 3.2.5. Monitoring and Progress

A development plan must be able to respond to changing circumstances within its lifetime. Regular monitoring of the relationship between the plan and changes within a wider EU and national policy context, development pressures and varying local priorities are important if the policies and objectives are to remain effective and relevant throughout the lifetime of the plan. The impact of policies and specific objectives should wherever possible be quantified.

To provide a quality service focused on the needs of our customers / citizens during the lifetime of the Clare County Development Plan 2023 – 2029 and in line with the Corporate Plan, the implementation of the Development Plan and its importance in assisting applicants for planning permission,

communities, statutory bodies, investors, and voluntary groups will be monitored by Clare County Council.

It is a requirement under the Planning and Development Act 2000 (as amended) for a report to be prepared, two years after the making of the plan, on the progress achieved in securing the objectives of the development plan. This Progress Report is necessary because, under the Act, it is the duty of the Planning Authority to “take such steps as are in its powers as may be necessary for achieving the objectives of the Development Plan”.

The SEA process through the recommendation of mitigation measures, by its nature requires environmental monitoring throughout the lifetime of the 6-year development plan.

To assist in the monitoring of this development plan, Clare County Council will set up systems to monitor planning and development in the County to help measure the degree to which the objectives are being achieved and overall, how effective the Plan is. Please see *Chapter 20 Implementation and Monitoring* of Volume 1 and *Chapter 10 Monitoring* of this SEA Report for further details.

| SEA Recommendations   | Inclusion in the Plan  |
|---|--|
| <p><b>The Vision for County Clare</b></p> <p>The vision for County Clare in the current County Development Plan needs to take on board the 3 crises which our county faces and address them in a meaningful way; biodiversity loss, climate change and the global pandemic with sustainability forming a central role.</p> <p>The suggested wording which is included in submissions 064 &amp; 090 to the Issues Paper should be carefully considered in this regard.</p>   | <p>The Vision for County Clare evolved through a process of reviewing and taking into consideration the submissions received together with input from the Planning and Environmental teams. The final Vision reflects the key challenges which our county faces over the next 6 years.</p> |
| <p><b>Goals</b></p> <p>The various chapters of the Clare County Development Plan 2023-2029 set out the planning policy response of Clare County Council to achieve the Vision set out above by 2029. Each chapter identifies a key goal supported by strategic aims and objectives. It is through the delivery of these goals that this common vision for County Clare will be achieved. The key goals need to reflect the change in Vision for the County and become embedded in a positive way with the key principles of sustainability.</p> | <p>The Goals have been amended to reflect the key changes to the Vision.</p>   |

## Chapter Four - Relationship with other Plans and Policies

### 4.1 Introduction

In line with Paragraph (e) of Schedule 2B of the Planning and Development (SEA) Regulations 2004 (as amended), this Environmental Report must identify *‘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’*.

The Clare County Development Plan 2023-2029 sits within a clear hierarchy of spatial policy documents. The hierarchy of strategies, policies and plans follows a format which commences with high level International and/or EU documents feeding progressively downwards into site specific local plans and policies.

As this is a County Development Plan, it is at an important level in terms of the development of County Clare, though it must adhere to policy and strategic actions and objectives which are pre-determined by higher level plans and guidelines. The County Development Plan will be affected by and will affect a wide range of other relevant plans and programmes, and environmental objectives. It is therefore important to identify relevant plans and programmes which will affect the new County Development Plan and must be examined in the context of the Strategic Environmental Assessment.

Chapter 8 of this Environmental Report contains sets out the relevant legislation and policy documents, ongoing key strategies, plans and programmes, and their interaction with the existing Plan.

As noted above it is important in terms of the development of County Clare that the Plan adheres to policy and strategic actions and objectives which are pre-determined by higher level plans and guidelines. Therefore, this Chapter identifies and summarises the relevant International, European Union and National legislation and policy documents, strategies and guidelines that set the context for this SEA process and the Clare County Development Plan 2022 - 2028.

From the onset a distinction must be made between the different sets of objectives, which have an influence on the preparation of the Clare County Development Plan 2023-2029. International and National strategies, policies and actions have a strong role to play in establishing higher level agendas such as climate change, while the Clare County Development plan objectives are more specific and localised in their orientation. Additionally, a third set of objectives, i.e., environmental objectives (see Chapter 6 on Strategic Environmental Objectives) must also be taken into account. These are categorised as per the environmental parameters set out in Schedule 2B ‘Information to be Contained in an Environmental Report’ of the SEA Regulations 2004 (as amended), namely; biodiversity, flora and fauna, population, soil and geology, air and climatic factors, water, cultural heritage, material assets and landscapes. Other areas include; sustainable development, strategic development, SEA, EIA and the environment in general. It should be noted that this list is comprehensive but not exhaustive and will be amended throughout the plan review and preparation process as new policy, guidance, plans programmes, etc. are adopted and/or published.



## 4.2 Planning Hierarchy

Within Ireland, planning legislation is set out in the Planning and Development Act 2000, as amended, and the principal regulations relating to the Acts are outlined in the Planning and Development Regulations 2001, as amended. The Development Plan lies within a clear hierarchy of spatial policy documents including strategies, policies and plans emanating from the high level International and European level which feeds down progressively to national, regional, county, and local level plans and policies. There is therefore a predetermined set of policies and strategic options which the Development Plan must adhere to. The Development Plan will be affected by and will in turn affect a wide range of other relevant plans and programmes and environmental objectives and it is important to identify these in the context of SEA.

In the context of the overall planning decision-making hierarchy, and key relevant Plans and Programmes as illustrated in **Table 4.1**, the County Development Plan is located towards the lower level.

The Plan must comply with the requirements of the EU and National Planning and Development-related legislation, as well as higher level plans including Project Ireland 2040: National Planning Framework (NPF); the Regional Spatial and Economic Strategy (RSES) for the Southern Regional Assembly and National Plans (refer to **Table 4.1**). In considering the significant plans and programmes relevant to the review of the Clare County Development Plan and the preparation of the new Clare County Development Plan 2023-2029 the EPA's Scoping Guidance document was consulted during the preparation of the SEA Scoping Report which has served to inform the Environmental Report in turn.

The following international, national, regional, and local plans/programmes and legislation where relevant as outlined in **Table 4.1**, will influence the policies contained in the CDP and in turn will influence the lower level plans and implementation processes.

**Table 4.1 Key Relevant Legislation, Plans and Programmes**

| EU legislation  |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Strategic Environmental Assessment Directive (2001/42/EC)</li> <li>• Environmental Impact Assessment Directive (2011/92/EU) as amended by (2014/52/EU)</li> <li>• Habitats Directive (92/43/EEC)</li> <li>• Birds directive (2009/147/EC-codified version of 79/409/EEC)</li> <li>• Water Framework Directive (2000/60/EC) and associated directives which have been subsumed as follows: Drinking Water Abstraction Directive; Sampling Drinking Water Directive; Exchange of Information on Quality of surface Freshwater Directive; Shellfish Directive; Freshwater Fish Directive; Groundwater (Dangerous Substances) Directive; and Dangerous Substances Directive</li> <li>• Drinking Water Directive (98/83/EC)</li> <li>• Bathing Water Directive (revised) 2006 (2006/7/EC)</li> <li>• Groundwater Directive (2006/118/EC)</li> <li>• Shellfish Waters Directive (2006/113/EC)</li> <li>• Marine Strategy Framework Directive (MSFD)(2008/56/EC)</li> <li>• Maritime Spatial Planning Directive (2014/89/EU)</li> </ul> | <ul style="list-style-type: none"> <li>• Sewage Sludge Directive (86/278/EEC)</li> <li>• Urban Waste Water Treatment Directive (91/271/EEC)</li> <li>• EU Landfill Directive (1999/31/EC)</li> <li>• Waste Framework Directive (1999/31/EC)</li> <li>• Environmental Noise Directive (2002/49/EC)</li> <li>• Environmental Liability Directive (2004/35/EC)</li> <li>• Air Quality Fourth Daughter Directive (2004/107/EC)</li> <li>• Nitrates Directive (91/676/EC)</li> <li>• Integrated Pollution Prevention Control Directive (2008/1/EC)</li> <li>• Floods Directive (2007/60/EC)</li> <li>• Renewable Energy Directive (2009/28/EC) and proposal for a revised directive (COM/2016/0767 final/2)</li> <li>• Energy Performance of Buildings Directives 2010/31/EU and 2018/844</li> <li>• Energy Efficiency Directive (2012/27/EU)</li> <li>• Seveso III directive 92012/18/EU)</li> <li>• Clean Air for Europe (CAFE) Directive (2008/50/EC)</li> </ul> |
| EU Frameworks   |  |
| <ul style="list-style-type: none"> <li>• Renewable Energies in the 21<sup>st</sup> Century: Building a More Sustainable Future</li> <li>• EU 2030 Climate and Energy Package</li> <li>• EU Energy Road Map 2050</li> </ul>  | <ul style="list-style-type: none"> <li>• A New Circular Economy Action Plan for a Cleaner More Competitive Europe (2020)</li> <li>• European Landscape Convention 2000</li> <li>• EU Biodiversity Strategy 2030</li> </ul>   |
| National Legislation  |  |
| <ul style="list-style-type: none"> <li>• Planning and Development Act 2000, (as amended)</li> <li>• Planning and Development (Amendment) Bill 2016</li> <li>• Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004) as amended by S.I. 201 of 2011;</li> <li>• Planning and Development Regulations 2001 (as amended)</li> <li>• The Wildlife Act 1976 and Wildlife (Amendment) Act 2000</li> <li>• European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011 as amended)</li> <li>• Waste Management Act 1996 as amended</li> <li>• The Water Services Act (2007 &amp; 2013)</li> <li>• Foreshore Act 1933-2011</li> </ul>   |  |

- Aquaculture Act 1997-2006 (Fisheries (Amendment) Act 1997 and amendments)
- Sea Fisheries & Maritime Jurisdiction Act 2006 and Sea Fisheries Regulations
- The National Monuments Act 1930-2004
- Roads Act 1993, as amended.
- Quality of Bathing Waters Regulations 1988 (S.I. 84 of 1988) as amended
- European Communities (Water Policy) Regulations 2003, (S.I. 722 of 2003)
- European Communities Environmental Objectives (Surface Water) Regulations (S.I. 272 of 2009)
- European Communities Environmental Objectives (FPM) Regulations 2009 (S.I. 296 of 2009)
- European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. 9 of 2010)
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014)
- Quality of Bathing Waters Regulations 1988 (S.I. 84 of 1988) as amended
- Climate Action and Low Carbon Development Act 2015
- Climate Action and Low Carbon Development Bill 2021

### National/Regional & Local Plans/Policies/Programmes

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• National Planning Framework (NPF) Project 2040</li> <li>• National Marine Planning Framework 2021</li> <li>• National Development Plan 2018-2027</li> <li>• Regional Spatial and Economic Strategy for the Southern Region (RSES)</li> <li>• Building on Recovery: Infrastructure and Capital Investment (2016-2021) (DPER, 2015)</li> <li>• Rebuilding Ireland, Action Plan for Housing and Homelessness</li> <li>• Rural Development Programme (RDP) 2014- 2020</li> <li>• Action Plan for Housing, Sustaining Communities. Statement on Housing Policy (2007).</li> <li>• Realising our Rural Potential, Action Plan for Rural Development</li> <li>• Ireland's National Waste Policy 2020-2025</li> <li>• Ireland's Environment – An Integrated Assessment 2020</li> <li>• Capital Investment Plan 2016-2021</li> <li>• National Policy Position on Climate Action and Low Carbon Development (2014)</li> <li>• National Energy Efficiency Action Plan for Ireland No.4 (2017-2020)</li> <li>• National Climate Change Mitigation Plan</li> <li>• Adapting to Climate Change - National Adaptation Framework 2018 and sectoral Adaptation Plans</li> <li>• Management Plans for Natura 2000 sites</li> <li>• All-Ireland Pollinator Plan 2015-2020</li> <li>• Climate Action Plan 2021</li> <li>• National Clean Air Strategy (Draft)</li> <li>• Draft Bioenergy Plan 2014</li> </ul> | <ul style="list-style-type: none"> <li>• National Broadband Plan Intervention Strategy</li> <li>• National Landscape Strategy for Ireland 2015 – 2025</li> <li>• Regional Seascape Character Assessment 2020</li> <li>• Healthy Ireland – a Framework for Improved Health and Wellbeing 2013-2025</li> <li>• Sustainable Rural Housing Guidelines</li> <li>• Ireland's Fourth Nitrates Action Programme</li> <li>• Forestry Programme 2014-2020</li> <li>• Forest Policy Review: Forests, Products and People – A Renewed Vision (2014)</li> <li>• Food Wise 2025 – Department of Agriculture, Food and Marine</li> <li>• Southwest Region Action Plan for Jobs 2015</li> <li>• Organic Farming Scheme Catchment Flood Risk and Management Studies</li> <li>• The Planning system and Flood Risk Management Guidelines for Planning Authorities (2009)</li> <li>• National CFRAMS Programme (2011)</li> <li>• Flood Risk Management Plans</li> <li>• European Structural &amp; Investment Funds 2014-2020</li> <li>• National Heritage Plan (2002)</li> <li>• Heritage Ireland 2030 (Draft)</li> <li>• Smarter Travel – A Sustainable Transport Future 2009-2020</li> <li>• Culture (2025)</li> <li>• Sustainable Development: A Strategy for Ireland (1997) (DEHLG)</li> <li>• Clare County Council Local Economic and Community Plan (2016)</li> </ul> |
|--|--|

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Second Cycle River Basin Management Plan 2018-2021</li> <li>• Irish Water - Water Services Strategic Plan 2015</li> <li>• Draft National Water Resources Plan 2021</li> <li>• Lead in Drinking Water Mitigation Plan</li> <li>• National Wastewater Sludge Management Plan 2016</li> <li>• Our Sustainable Future – A Framework for Sustainable Development Ireland (2012)</li> <li>• Our Sustainable Future – A Framework for Sustainable Development for Ireland (Progress Report 2015)</li> <li>• Aquaculture Plan 2014</li> <li>• National Biodiversity Action Plan 2017-2021</li> <li>• All-Ireland Pollinator Plan 2021-2025</li> <li>• National Peatlands Strategy 2015</li> <li>• Southern Region Waste Management Plan 2015- 2021</li> <li>• Delivering a Sustainable Energy Future for Ireland (Energy White Paper) 2007 and 2015 update</li> <li>• National Renewable Energy Action Plan</li> <li>• National Energy &amp; Climate Plan 2021-2030</li> <li>• Strategy for Renewable Energy 2012-2020</li> <li>• Offshore Renewable Energy Development Plan 2030</li> <li>• Draft Wind Energy Development Guidelines (2019)</li> <li>• Harnessing Our Ocean Wealth</li> <li>• National Cycle Policy Framework 2009-2020</li> <li>• National Hazardous Waste Management Plan 2010-2020</li> <li>• Construction 2020</li> <li>• Blue Dot Catchment Programme</li> </ul> | <ul style="list-style-type: none"> <li>• Clare County Biodiversity Action Plan 2017-2023</li> <li>• Clare County Council’s Climate Adaptation Strategy 2019 - 2024</li> <li>• Clare County Landscape Character Assessment 2004</li> <li>• Regional Development Strategy 2035</li> <li>• NPWS Conservation Plans and/ or Conservation Objectives for SAC and SPAs</li> <li>• Tourism Masterplan of the Shannon 2020-2030</li> <li>• Draft Statutory Climate Change Adaptation Plan for the Transport Sector (2019)</li> <li>• National Air Pollution Control Programme (NAPCP) (2019)</li> <li>• Draft National Clean Air Strategy</li> <li>• Traffic and Transport Assessment Guidelines (2014)</li> <li>• Transport 21, as superseded by the Department of Public Expenditure and Reform document titles Infrastructure and Capital Investment (2012-2016).</li> <li>• National Policy Framework for Alternative Fuel Infrastructure in Transport in Ireland (2017-2030)</li> <li>• Integrated Implementation Plan (2019-2024) (Transport)</li> <li>• The Greenway Strategy – Strategy for the Future Development of National and Regional Greenways (2018)</li> <li>• Clare Tourism Strategy 2021</li> </ul> |
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**4.3 SEA Recommendation\***

\*Refer to Chapter 11 for full details on recommendations

| SEA Recommendation  | Inclusion in the Plan  |
|---|--|
| The Plan should be set in the context of the planning hierarchy and a clear statement should be provided as to the function of the Plan and what the Plan can and cannot do.          | Yes – This is clearly outlined in Chapter 1 with respect to the legislative requirement of the CDP.                            |
| Where other Plans/Programmes/Strategies are responsible for implementing relevant policies / objectives / initiatives, these should be acknowledged and fully referenced in the Plan. | Yes- this is done through the Plan in terms of the introduction to each chapter and the guiding principles for implementation. |
| Under the EIA and Planning and Development Regulations certain projects that may arise during   | The requirement for potentially having to undertake EIA Screening and/or the   |

|  |   |
|--|---|
| <p>the implementation of the Plan may require an Environmental Impact Assessment and the preparation of an Environmental Impact Assessment Report. There are also requirements regarding EIA for sub-threshold development.</p>  | <p>preparation of an EIAR is outlined through the inclusion of CDP Objective 9.4 relating to Tourism Developments, 9.8 relating to Activity and Adventure Tourism, Objective 15.10 relating to Environmental Impact Assessment and the technical guidance contained in Volume 3 with respect to individual zonings.</p> |
| <p>Projects would also be required to be screened with respect to the requirement for Appropriate Assessment as required by Article 6 (3) of the Habitats Directive and/or the preparation of a Natura Impact Statement (NIS) in line with Article 6(4)</p>  | <p>The requirement for potentially having to undertake Screening for Appropriate Assessment and/or the preparation of an NIS is outlined through the inclusion of CDP Objective 15.3 and the technical guidance contained in Volume 3 with respect to individual zonings.</p>   |
| <p>Following the review of relevant national and regional policies, plans and programmes as part of the Strategic Environmental Assessment, the Clare County Development Plan must ensure that the objectives set out in the CDP meet the requirements of all relevant plans and policies as outlined in <b>Table 4.1</b> of the SEA Environmental Report.</p> | <p>This has been achieved through the assessment of all the Plan objectives contained not only within the Written Statement but also contained within all other Volumes (i.e., Volumes 1 – 9)</p>   |

## Chapter Five - Environmental Baseline

### 5.6 Biodiversity, Flora and Fauna

#### 5.6.1 Introduction

‘Biological diversity’ or biodiversity, means “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems” (The United Nations Convention on Biodiversity, 1992).

In general terms biodiversity refers to:

- Different **habitats** such as woodlands, wetlands, grasslands and estuarine habitats and the range of flora and fauna species they support.
- Different **species** such as plants, mammals, birds, insects, fish, microbes, mosses and fungi, and their inter-relationships such as food chains and cohabitation.
- **Genetic diversity** within species which is vital for healthy populations of individual species to survive.
- **Ecosystem’s diversity** which are the relationships between different species, their habitats and their local, non-living environment (geology, hydrology and microclimate).
- Features of the **landscape**, which by virtue of their linear and continuous structure (such as hedgerows or streams) or their function as links (such as ponds or small woods) are essential for the migration, dispersal, and genetic exchange of wild species.
- Flora and Fauna are the plant and animal life, respectively.

A wide range of economic and social benefits and services result from the protection of biodiversity, for example, it forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation, amenity, and recreational opportunities through development of green infrastructure networks.

#### 5.6.2 Key Legislation

##### EU Habitats Directive (92/43/EEC)

The Habitats Directive provides the legislative framework for the protection of habitats and species throughout Europe through the establishment of a network of designated conservation areas known as the Natura 2000 network. The Natura 2000 network includes sites designated as Special Areas of Conservation (SACs), under the EU Habitats Directive and Special Protection Areas (SPAs) designated under the EU Birds Directive (now called Codified Directive 2009/147/EC).

There are 24 Articles contained within the Habitats Directive. Article 6 is viewed to be one of the most important of the 24 as it determines the link between land use and conservation. It contains three main sets of provisions. In summary, Article 6(1) sets out measurements that are necessary for conservation with a focus on both positive and practical interventions. Article 6(2) places emphasis on prevention, setting out that habitat deterioration and species disturbance should be avoided. Articles 6(3) and 6(4) set out a series of procedural safeguards presiding over plans and projects that are likely to have a significant effect on an identified European site(s).

Article 10<sup>1</sup> of the Directive covers stepping-stones and ecological corridors including nature conservation sites, other than European site(s), habitat areas and species locations including areas of ecological importance identified through habitat surveys.

### **EU Birds Directive (now called Codified Directive 2009/147/EC)**

The Birds Directive was anticipated by the Wildlife Act (1976) and its provisions covered many of the requirements of the Birds Directive. Article 7 of the Habitats Directive makes the provisions of Article 6(3) and 6(4) applicable to Special Protection Areas.

The Birds Directive requires that important concentrations of migratory waterfowl and internationally important wetlands be protected in the same way as Annex 1 and Annex II habitats and species under the Habitats Directive. In addition, case law under the Birds Directive indicates that internationally important bird sites are given protection equivalent to priority listed habitats and species under the Habitats Directive.

### **Environmental Liability Directive (2004/35/EC)**

The Directive establishes a framework for environmental liability based on the "polluter pays" principle, with a view to preventing and remedying environmental damage. The Directive defines "environmental damage" as damage to protected species and natural habitats, damage to water and damage to soil. Operators carrying out dangerous activities listed in Annex III of the Directive fall under strict liability (no need to prove fault). Operators carrying out other occupational activities than those listed in Annex III are liable for fault-based damage to protected species or natural habitats. The establishment of a causal link between the activity and the damage is always required. Affected natural or legal persons and environmental NGOs have the right to request the competent authority to take remedial action if they deem it necessary.

### **European Communities (Environmental Liability) Regulations 2008**

The European Communities (Environmental Liability) Regulations 2008 came into force in Ireland on 1<sup>st</sup> April 2009. These Regulations (SI 547 of 2008) transpose EU Directive 2004/35/CE on environmental liability regarding the prevention and remedying of environmental damage. The purpose of these Regulations is to establish a framework of environmental liability based on the 'polluter-pays'

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<sup>1</sup> Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora.

principle, to prevent and remedy environmental damage. The EPA is designated as the competent authority for all aspects of these Regulations.

### **Wildlife Act 1976 and Wildlife (Amendment) Act 2000**

The Wildlife (amendment) Act, 2000 protects species at the national level which is implemented through a series of regulations. Its main objectives inter alia are to:

- Provide a mechanism to give statutory protection to Natural Heritage Areas (NHAs)
- Provide for statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs
- Improve some existing measures and introduce new ones, to enhance the conservation of wildlife species and their habitats
- Broaden the scope of the Wildlife Acts to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act
- Increase substantially the level of fines for contravention of the Wildlife Acts and to allow for the imposition of prison sentences
- Strengthen the provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety
- Strengthen the protective regime for Special Areas of Conservation (SACs) by removing any doubt that protection will in all cases apply from the time of notification of proposed sites.

### **National Biodiversity Action Plan 2017-2021**

The National Biodiversity Action Plan sets out a vision and strategic objectives for the conservation of Ireland's biodiversity. The vision for Ireland's biodiversity is 'that biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally'.

The targets set in this plan are in the context of the seven strategic objectives retained from the second National Biodiversity Plan, which ran from 2011 – 2016. These objectives have laid out a clear framework for our national approach to biodiversity and continuing to focus on these pillars will ensure that we build on the efforts and achievements of the past five years while looking ahead to what we can achieve over the next five years.

*The seven strategic objectives are set out below.*

- Mainstream biodiversity into decision-making across all sectors.
- Strengthen the knowledge base for conservation, management, and sustainable use of biodiversity.
- Increase awareness and appreciation of biodiversity and ecosystem services.
- Conserve and restore biodiversity and ecosystem services in the wider countryside.
- Conserve and restore biodiversity and ecosystem services in the marine environment.
- Expand and improve management of protected areas and species.



- Strengthen international governance for biodiversity and ecosystem services.

### **Clare Biodiversity Action Plan 2017-2023**

The 3rd Clare County Biodiversity Action Plan 2017–2023, supersedes the 2nd Clare Biodiversity Action Plan, published in 2014.

The main aim of the Clare Biodiversity Action Plan 2017-2023 is to '*conserve the biodiversity of County Clare*'. Over the course of the last Biodiversity Plan there were annual Biodiversity awareness initiatives, community events and activities: Biodiversity Week and Heritage Week, talks, outings, bog walks, bat outings, practical demonstrations, wildlife surveys, public workshops, articles written for local media, alongside working with local communities to undertake Local Biodiversity Actions and planning.

Similar to the objectives of the National Biodiversity Plan, the Clare Biodiversity Action Plan is consistent with the 'ecosystem approach'. The ecosystem approach ensures that all of the essential processes, functions and interactions between species, their habitats and their local, non-living environment have been taken into account when promoting best practice management and guidelines for biodiversity conservation.

**Clare County Heritage Plan 2017-2023** The County Clare Heritage Plan identifies heritage as landscape, seascapes, flora, fauna, wildlife habitats, monuments, archaeological objects, architectural heritage, heritage objects, geology, inland waterways, heritage gardens and parks, wrecks, and elements of cultural heritage such as genealogy, place names, the Irish language, traditional music and oral history recording.

The aims of the Clare County Heritage Plan 2017-2023:

- identify, manage and conserve heritage for the benefit of all;
- collect and make available heritage information;
- raise awareness through education initiatives;
- acquire knowledge through surveys and research; and
- inform public policy on heritage.
- Support the strategic and integrated management of heritage at a local level.

The Clare County Heritage Plan 2017-2023 is focused on six key themes and under each theme there are a number of identified actions which can be implemented over the life time of the Plan.

The six themes are;

1. Community.
2. Training and Education.
3. Sustainable Tourism.
4. Biodiversity, Climate Change and Green Infrastructure Planning.
5. Built Heritage.
6. Cultural Heritage.

Theme number four, Biodiversity, Climate Change and Green Infrastructure Planning, aims to;

- Develop and work to implement the County Clare Biodiversity Action Plan 2017-2023 in partnership with all relevant stakeholders and the community;
- Promote and implement the All-Ireland Pollinator Plan 2015-2020 and local associated initiatives;
- Further raise awareness of the value, role and function of wetlands in the County;
- Support the Local Authority Waters and Community Officer in their work with communities to understand the value of the aquatic environment and to take the leadership role in the protection of our wetlands, including measures to protect high status sites in County Clare, provision of community wetlands, integrated constructed wetlands, natural flood areas with a particular focus on the River Fergus catchment involving community action;
- Assist in the pilot scheme to map, establish demonstration plots and provide training on Invasive Species as part of an overall Clare County Council corporate strategy to control and eradication of Invasive Species;
- Input into the Clare County Councils Adaptation Team as required under the National Climate Change Adaptation Framework (NCCAF) in preparing the local authority adaptation strategy;
- Further implement the existing Green Infrastructure Plans and consider other opportunities for green infrastructure planning; and
- Enhance biodiversity by providing training and guidance on Green Infrastructure and through the promotion and adoption of a green infrastructure-based approach to planning.

### 5.6.3 Biodiversity and Climate Change Adaptation

Flood plains and wetland areas are essential for flood control, pollution control, water quality and supply as well as act as vital carbon sinks, along with peatlands and woodlands, which could help address climate change. Changes in precipitation levels, air and soil temperatures, water availability and sea level rise all have implications in terms of effects on biodiversity. The effects will be cumulative, long-term and often complex. The uncertainty that surrounds climate change and what will occur also adds to the complexity and uncertainty of identifying impacts.

Climate change is regarded as the biggest environmental issue facing the world today. The release of greenhouse gases, such as carbon dioxide, is regarded as one of the main drivers of climate change. Biodiversity, and particularly plants, play a significant role in removing this carbon dioxide from the atmosphere and storing it through photosynthesis. However, activities which lead to a loss of vegetation prevent this critical service from occurring, while activities such as the drainage of peatlands can release more carbon dioxide into the atmosphere. Combined, these activities can speed up the rate of climate change. The rate of biodiversity loss across the world has been inextricably linked to the rate of global climate change. However, there has been an increasing move towards trying to adapt to climate change, rather than trying to stop it, and in this regard, biodiversity has another significant role to play, particularly in relation to flood attenuation.

Wetlands, such as bogs, fens, swamps, and marshes, slow down the flow of water, and so help to regulate flooding, however, their loss not only exacerbates the level of flooding, but also its speed, which leads to flash flooding. Wetlands can contain huge volumes of water (bogs, for example, are made of over ninety percent water) and when a wetland is drained, the water must go somewhere, and water will always flow to the lowest lying areas. The protection and retention of river floodplains

from infilling, reclamation or development is also vitally important to ameliorate the impacts of flooding.

#### **5.6.4 Biodiversity in the Plan Area**

The Plan area is rich in biodiversity, containing many important, and protected, habitats and species such as the Shannon Estuary, lakes, turloughs, fens, wetlands, woodlands, bats, wildfowl (duck and geese), waders, salmon, lamprey, and otters. However, it also contains many other habitats which are not protected such as scrub, parks, streams, hedgerows, tree lines, roadside verges, housing estate open spaces and gardens. It is these locally important habitats and species within the landscape, including extensive areas of wetland, fens, broadleaf woodlands, grasslands and turloughs, which provide links between the more rare and protected habitats, and are essential for the migration, dispersal and genetic exchange of wild plants and animals such as garden birds (robins, wrens, finches, etc.) and migrant summer visitors (swallows, cuckoos, warblers, etc), otters, hedgehogs, bats, pigmy shrew and other Irish mammals, lamprey, salmon and other fish species, and a variety of invertebrates, including beetles, bees, butterflies, dragonflies and damselflies. They also allow for the spread of seeds, which benefit the wildflower populations of County Clare. It is recognised that many rare and protected species are reliant on locally important species, and as such the protection of common habitats and species should not be underestimated.

While not explicitly stated, there is a hierarchy within biodiversity, by virtue of the legislation which protects it. At the top are sites designated (or proposed for designation) for nature conservation under European legislation (SACs, SPAs), followed by those designated (or proposed for designation) by national legislation (NHAs, pNHAs). Next, there are habitats and species outside designated sites which are protected under European legislation, followed by those protected under national legislation. There are locally important areas protected by virtue of their zoning in land use plans, and finally, there is biodiversity, which is not directly protected by legislation, for example in proposed Natural Heritage Areas (pNHA).

Within County Clare there are habitats of high biodiversity and conservation value, including the wildfowl sanctuaries of Mutton Island, Islandavanna, Tullagher Lough, Inagh River (part of) and Ballyallia Lake and the Ballyteigue, Caher (Murphy) Dromore and Keelhilla nature reserve. There are several designated sites associated within the county which are designated as Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs). Natural Heritage Areas also have a significant role in supporting the species using European sites mainly relating to mobile fauna such as mammals and birds which may use pNHAs and NHAs as “stepping-stones” between Natura 2000 sites. Article 10 of the Habitats Directive and the Habitats Regulations 2011, place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands, and important hedgerows form key “stepping-stones”.

#### **5.6.5 European Sites**

Special Areas of Conservation (SACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) - referred to as the Habitats Directive. The Habitats Directive seeks to establish the Natura 2000 network, a network of protected areas (European Sites) throughout the European Union. It is the responsibility of each Member State to designate SACs to protect habitats and species, which, together with

Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC), form the Natura 2000 network. The integrity of a European Site (referred to in Article 6.3 of the EU Habitats Directive) is determined based on the conservation status of the qualifying features of the SAC. The qualifying features for the designated sites have been obtained through a review of the Conservation Objectives available from the National Parks and Wildlife Service (NPWS). The SACs and SPAs associated with the Development Plan area are listed in **Table 5.6.1** and **Table 5.6.2** respectively and illustrated in **Figure 5.6.1** and **Figure 5.6.2**.

**Table 5.6.1 List of Special Areas of Conservation (SACs) in the Clare County Development Plan Area**

| Designated SAC                               | Site Code | Qualifying Interests   |
|--|-----------|--|
| Ballyallia Lake SAC                          | 000014    | It is a naturally eutrophic lake which is a habitat listed under Annex I of the habitat's directive. It also contains significant numbers of the Whooper Swan which is an Annex I species under the Birds Directive.   |
| Ballycullinan Lake SAC                       | 000016    | Designated for the presence of <i>Cladium fen</i> , a habitat listed under Annex I of the EU Habitats Directive.   |
| Ballyogan Lough SAC                          | 000019    | This site contains the Annex I species <i>Cladium fen</i> .  |
| Black Head – Poulisallagh Complex SAC & pNHA | 000020    | Designated for the presence of Annex I species such as Reefs, Perennial vegetation of stony banks, Alpine Heaths, <i>Juniperus communis</i> formations on heaths or calcareous grasslands, lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ), Petrifying springs with tufa formation, limestone pavements and submerged or partly submerged sea caves. In addition, the site contains the Annex II species such as <i>Petalophyllum ralfsii</i> . |
| Danes Hole, Poulnalecka SAC                  | 000030    | This site is significant as it is a winter hibernation site and a mating site of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ), which is a species listed under Annex II of the EU Habitats Directive.  |
| Dromore Woods and Loughs SAC                 | 000032    | This is designated for the presence of several naturally eutrophic lakes with <i>Magnopotamion</i> and <i>Hydrocharition</i> -type vegetation and limestone pavements which are listed under Annex I of the EU Habitats Directive as well as the Otter which is listed under Annex II of the EU Habitats Directive.  |
| Inagh River Estuary SAC & pNHA               | 000036    | Species listed under Annex I of the EU Habitats Directive such as <i>Salicornia</i> and other annuals colonizing mud and sand, Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimi</i> ), Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ), shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) and fixed coastal dunes with herbaceous vegetation (grey dunes).  |
| Pouladatig Cave SAC                          | 000037    | Designated for the presence of the Lesser Horseshoe Bat ( <i>Rhinolophus</i>   |
| Lough Gash Turlough SAC                      | 000051    | This site is significant as it is a Turlough habitat under Annex I of the EU Habitats Directive.   |
| Moneen Mountain SAC                          | 000054    | Designated for the presence of limestone pavement and its associated calcareous grassland and juniper scrub and heaths which are listed under Annex I of the EU Habitats Directive. The Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) can be found at this site and is listed under Annex II of the EU Habitats Directive.  |
| Moyree River System SAC                      | 000057    | Limestone pavement, floating river vegetation, alkaline fen and caves are the Annex I Habitats located at this site. It is an internationally important summer roosting and hibernation site for the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive.   |
|  | 000064    | Designated for the presence of a natural cave which is listed under Annex I of the EU Habitats Directive. The Lesser Horseshoe Bat   |

| Designated SAC   | Site Code | Qualifying Interests  |
|--|-----------|---|
| Poulnagordon Cave (Quin) SAC                             |           | <i>(Rhinolophus hipposideros)</i> , a species listed under Annex II of the Habitats Directive, uses the cave as a hibernation site.   |
| Galway Bay Complex SAC & pNHA                            | 000268    | This site has the following significant habitats which are listed under Annex I of the EU Habitats Directive: Mudflats and sandflats not covered by seawater at low tide, coastal lagoons, large shallow inlets and bays, reefs, perennial vegetation of stony banks, <i>Salicornia</i> and other annuals colonizing mud and sand, Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> ), Mediterranean Salt Meadows ( <i>Juncetalia maritima</i> ), Turloughs, <i>Juniperus communis</i> formations on calcareous heaths or grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco Brometalia</i> ) (important orchid sites), Calcareous fens with ( <i>Cladium mariscus</i> ) and species of the <i>Caricion davalliana</i> and Alkaline fens. The Otter ( <i>Lutra lutra</i> ) and the Common seal ( <i>Phoca vitulina</i> ) are the species found at this site which are listed under Annex II of the EU Habitats Directive.                            |
| Loughatorick South Bog SAC                               | 000308    | Designated for the presence of the Blanket bog (active only) habitat, listed under Annex I of the EU Habitats Directive.  |
| Ballyteige (Clare) SAC                                   | 000994    | This site consists of Molina meadows on calcareous, peaty or clayey-silt laden soils ( <i>Molinion caeruleae</i> ), a habitat listed under Annex I of the EU Habitats Directive.  |
| Ballyvaughan Turlough SAC                                | 000996    | Designated for the presence of Turloughs which are listed in Annex I of the EU Habitats Directive.  |
| Glennomra Wood SAC                                       | 001013    | This site consists of Old sessile oak woods with Ilex and Blechnum in British Isles, listed under Annex I of the EU Habitats Directive.   |
| Carrowmore Point to Spanish Point and Islands SAC & pNHA | 001021    | Designated for the presence of the following habitats listed under Annex I of the EU Habitats Directive: Coastal lagoons, Reefs, Perennial vegetation of stony banks and Petrifying springs with tufa formation ( <i>Cratoneurion</i> ).  |
| Termon Lough SAC   | 001321    | Termon Lough SAC is situated approximately 6 km south-west of Gort, on the border between Counties Clare and Galway. It consists of a series of three turloughs, with low, drift-covered slopes on all sides except in the north-east, where a small area of limestone pavement is found.<br>Designated for the presence of Turloughs, a habitat listed under Annex I of the EU Habitats Directive.   |
| Glendree Bog SAC   | 001912    | Designated for the presence of Blanket Bog (active only), a habitat listed under Annex I of the EU Habitats Directive.  |
| East Burren Complex SAC                                  | 001926    | This site has the following habitats which are listed under Annex I of the EU Habitats Directive: Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Turloughs, Alpine and Boreal Heaths, <i>Juniperus communis</i> formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco Brometalia</i> ) (important orchid sites), lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ), Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i> , Petrifying springs with tufa formation ( <i>Cratoneurion</i> ), Alkaline fens, Limestone pavements, Caves not open to the public, Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno- Padion</i> , <i>Alnion incaeanae</i> , <i>Salicion albae</i> ). The Otter ( <i>Lutra lutra</i> ) is found at this site and is listed under Annex II of the EU Habitats Directive. |
| Old Domestic Building (Keevagh) SAC                      | 002010    | Designated for the presence of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive.  |

| Designated SAC                           | Site Code | Qualifying Interests   |
|--|-----------|--|
| Newhall and Edenvale Complex SAC         | 002091    | This site is significant as it consists of the habitat Caves not open to the public which is a habitat listed under Annex I of the EU Habitats Directive. The Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ), an Annex II species can also be found at this location.  |
| Pollagoona Bog SAC                       | 002126    | Designated for the presence of Blanket bog (active only) which is a habitat listed under Annex I of the EU Habitats Directive.   |
| Newgrove House SAC                       | 002157    | This site is significant as the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive can be found here.  |
| Lower River Shannon SAC                  | 002165    | Designated for the presence of the following habitats under Annex I of the EU Habitats Directive: Sandbanks which are slightly covered by sea water all the time, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Large shallow inlets and bays, Reefs, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, <i>Salicornia</i> and other annuals colonizing mud and sand, <i>Spartina</i> swards ( <i>Spartinion maritimae</i> ), Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ), Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ), Molina meadows on calcareous, peaty or clayey-silt laden soils ( <i>Molinion caeruleae</i> ) and Alluvial forests with <i>Alus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ). Annex II species which are present at this site include the Freshwater pearl mussel ( <i>Margaritifera margaritifera</i> ), Sea lamprey ( <i>Petromyzon marinus</i> ), Brook lamprey ( <i>Lampetra planeri</i> ), River lamprey ( <i>Lampetra fluviatilis</i> ), Salmon ( <i>Salmo salar</i> ), Bottle-nosed dolphin ( <i>Tursiops truncatus</i> ) and the Otter ( <i>Lutra lutra</i> ). |
| Old Farm Buildings, Ballymacrogan SAC    | 002245    | This site is significant as the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive can be found here.  |
| Ballycullinan, Old Domestic Building SAC | 002246    | Designated for the presence of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive.   |
| Toonagh Estate SAC                       | 002247    | This site is significant as the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive can be found here.  |
| Carrowmore Dunes SAC                     | 002250    | Designated for the presence of the following habitats listed under Annex I of the EU Habitats Directive: Reefs, Embryonic shifting dunes, Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) and Fixed coastal dunes with herbaceous vegetation (grey dunes). The Annex II species narrow-mouthed whorl snail ( <i>Vertigo angustior</i> ) can also be located at this site.  |
| Kilkee Reefs SAC                         | 002264    | This site is significant as it consists of a Reef habitat and a shallow bay habitat which is both listed under Annex I of the EU Habitats Directive.   |
| Slieve Bernagh Bog SAC                   | 002312    | Designated for the presence of blanket bog, wet heath and dry heath which are habitats that are listed under Annex I of the EU Habitats Directive.   |
| Old Domestic Buildings, Rylane SAC       | 002314    | This site contains two important breeding roosts of the lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the Habitats Directive.   |
| Ratty River Cave SAC                     | 002316    | Designated for the presence of a cave which is listed under Annex I of the EU Habitats Directive and it is a significant winter roost and a breeding site of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive.   |



| Designated SAC                                 | Site Code | Qualifying Interests   |
|--|-----------|--|
| Cregg House Stables, Crusheen                  | 002317    | This site contains an important breeding roost of the lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the Habitats Directive. Situated approx. 1km from the Clare Border.   |
| Knockanira House SAC                           | 002318    | This site is significant as it contains an important maternity roost of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the EU Habitats Directive.  |
| Kilkishen House SAC                            | 002319    | Designated for the presence of an important winter roost of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) which is listed under Annex II of the Habitats Directive.   |
| Tullaher Lough and Bog SAC                     | 002343    | Significant site as it consists of an active raised bog, degraded raised bog and Rhynchosporion and transition mire which are listed on Annex I of the EU Habitats Directive.  |
| Ardrahan Grassland SAC                         | 002244    | Designated for Alpine and Boreal heaths, Juniperus communis formations on heaths or calcareous grasslands Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) and Limestone pavements which are listed on Annex I of the EU Habitats Directive.                                 |
| Askeaton Fen Complex SAC                       | 002279    | Designated for Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> and Alkaline fens which are listed on Annex I of the EU Habitats Directive.   |
| Ballinduff Turlough SAC                        | 002295    | Designated for the presence of a turlough. The turlough is late-draining and a pool persists into June or July and re-floods easily. Turloughs are listed on Annex I of the EU Habitats Directive.   |
| Barrigone SAC                                  | 000432    | Designated for Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) , Limestone pavements and Euphydryas aurinia (Marsh Fritillary) [1065]. These habitats are listed on Annex I of the EU Habitats Directive. |
| Barroughter Bog SAC                            | 000231    | Designated for Active raised bogs, degraded raised bogs still capable of natural regeneration and Depressions on peat substrates of the Rhynchosporion These habitats are listed on Annex I of the EU Habitats Directive.  |
| Caherglassaun Turlough SAC                     | 000238    | Designated for the presence of a turlough. Turloughs are listed on Annex I of the EU Habitats Directive.   |
| Cahermore Turlough SAC                         | 002294    | Designated for the presence of a turlough. Turloughs are listed on Annex I of the EU Habitats Directive.   |
| Carrowbaun, Newhall and Ballylee Turloughs SAC | 002293    | Designated for the presence of a turlough. Turloughs are listed on Annex I of the EU Habitats Directive.   |
| Castletaylor Complex SAC                       | 000242    | Designated for Turloughs, Alpine and Boreal heaths, Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) and Limestone pavements. These habitats are listed on Annex I of the EU Habitats Directive.           |
| Clare Glen SAC                                 | 000930    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles and <i>Trichomanes speciosum</i> (Killarney Fern). This habitat is listed on Annex I of the EU Habitats Directive and Killarney Fern is listed in Annex II and IV of the Habitats Directive   |
| Cloonmoylan Bog SAC                            | 000248    | Designated for Active raised bogs, Degraded raised bogs still capable of natural regeneration, Depressions on peat substrates of the Rhynchosporion and Bog woodland. These habitats are listed on Annex I of the EU Habitats Directive.   |

| Designated SAC                    | Site Code | Qualifying Interests   |
|-----------------------------------|-----------|--|
| Connemara Bog Complex SAC         | 002034    | Designated for Coastal lagoons, Reefs, Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ), Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> , Natural dystrophic lakes and ponds, Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation, Northern Atlantic wet heaths with <i>Erica tetralix</i> , European dry heaths, Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ), Blanket bogs (* if active bog), Transition mires and quaking bogs, Depressions on peat substrates of the Rhynchosporion, Alkaline fens, Old sessile oak woods with Ilex and Blechnum in the British Isles, <i>Euphydryas aurinia</i> (Marsh Fritillary), <i>Salmo salar</i> (Salmon), <i>Lutra lutra</i> (Otter) and <i>Najas flexilis</i> (Slender Naiad). These habitats are listed on Annex I of the EU Habitats Directive. Slender Naiad, Otter and Salmon are listed in Annex II and IV of the Habitats Directive. Marsh Fritillary is listed in Annex II of the Habitats Directive |
| Coole-Garryland Complex SAC       | 000252    | Designated for Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation, Turloughs, Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation, Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Limestone pavements and <i>Taxus baccata</i> woods of the British Isles. These habitats are listed on Annex I of the EU Habitats Directive.   |
| Curraghchase Woods SAC            | 000174    | Designated for Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ), <i>Taxus baccata</i> woods of the British Isles, <i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) and <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat). These habitats are listed on Annex I of the EU Habitats Directive. Desmoulin's Whorl Snail is listed in Annex II of the Habitats Directive and Lesser Horseshoe Bat are listed in Annex II and IV of the Habitats Directive.   |
| Derrycrag Wood Nature Reserve SAC | 000261    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Drummin Wood SAC                  | 002181    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Glenstal Wood SAC                 | 001432    | Designated for <i>Trichomanes speciosum</i> (Killarney Fern). This habitat is listed on Annex I of the EU Habitats Directive.  |
| Gortacarnaun Wood SAC             | 002180    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Inisheer Island SAC               | 001275    | Designated for Coastal lagoons, Reefs, European dry heaths, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ) and Limestone pavements. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Inishmaan Island SAC              | 000212    | Designated for Reefs, Perennial vegetation of stony banks, Vegetated Sea cliffs of the Atlantic and Baltic coasts, Embryonic shifting dunes, Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes), Machairs (* in Ireland), European dry heaths, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-</i>  |



| Designated SAC             | Site Code | Qualifying Interests   |
|----------------------------|-----------|--|
|                            |           | <i>Brometalia</i> ) (* important orchid sites), Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ) and Limestone pavements. These habitats are listed on Annex I of the EU Habitats Directive.   |
| Inishmore Island SAC       | 000213    | Designated for Coastal lagoons, Reefs, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, Embryonic shifting dunes, Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes), Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> ), Humid dune slacks, Machairs, European dry heaths, Alpine and Boreal heaths, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ), Limestone pavements, Submerged or partially submerged sea caves and <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail). These habitats are listed on Annex I of the EU Habitats Directive. Narrow-mouthed Whorl Snail is listed in Annex II of the Habitats Directive  |
| Keeper Hill SAC            | 001197    | Designated for Northern Atlantic wet heaths with <i>Erica tetralix</i> and Blanket bogs (*if active bog). These habitats are listed on Annex I of the EU Habitats Directive.   |
| Kerry Head Shoal SAC       | 002263    | Designated for Reefs. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Kiltartan Cave (Coole) SAC | 000286    | Designated for Caves do not open to the public and <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat). This habitat is listed on Annex I of the EU Habitats Directive. Lesser Horseshoe Bat is listed in Annex II and Annex IV of the Habitats Directive   |
| Kiltiernan Turlough SAC    | 001285    | Designated for the presence of a turlough. Turloughs are listed on Annex I of the EU Habitats Directive.   |
| Lough Corrib SAC           | 000297    | Designated for Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ), Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> , Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp., Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ), Active raised bogs, Degraded raised bogs still capable of natural regeneration, Depressions on peat substrates of the Rhynchosporion, Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> , Petrifying springs with tufa formation (Cratoneurion), Alkaline fens, Limestone pavements, Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles, Bog woodland,<br><br><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel), <i>Austropotamobius pallipes</i> (White-clawed Crayfish), <i>Petromyzon marinus</i> (Sea Lamprey), <i>Lampetra planeri</i> (Brook Lamprey), <i>Salmo salar</i> (Salmon), <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat), <i>Lutra lutra</i> (Otter), <i>Najas flexilis</i> (Slender Naiad), <i>Hamatocaulis vernicosus</i> (Slender Green Feathermoss) [6216]<br><br>These habitats are listed on Annex I of the EU Habitats Directive. Freshwater Pearl Mussel, White Clawed Crayfish, Salmon, Otter, Slender Naiad are listed in Annex II and Annex IV of the Habitats |

| Designated SAC                          | Site Code | Qualifying Interests  |
|---|-----------|---|
|   |           | Directive. Sea lamprey, Brook Lamprey and Slender Green Feathermoss are listed in Annex II of the Habitats Directive.   |
| Lough Coy SAC                           | 002117    | Designated for the presence of a turlough. Turloughs are listed on Annex I of the EU Habitats Directive.  |
| Lough Cutra SAC                         | 000299    | Designated for <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat). Lesser Horseshoe Bat is listed in Annex II and Annex IV of the Habitats Directive  |
| Lough Derg, North-east Shore SAC        | 002241    | Designated for <i>Juniperus communis</i> formations on heaths or calcareous grasslands, Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> , Alkaline fens, Limestone pavements, Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) and <i>Taxus baccata</i> woods of the British Isles. These habitats are listed on Annex I of the EU Habitats Directive.   |
| Lough Fingall Complex SAC               | 000606    | Designated for Turloughs, Alpine and Boreal heaths, <i>Juniperus communis</i> formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> , Limestone pavements and <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat). These habitats are listed on Annex I of the EU Habitats Directive. Lesser Horseshoe Bat is listed in Annex II and Annex IV of the Habitats Directive |
| Moanveanlagh Bog SAC                    | 002351    | Designated for Active raised bogs, Degraded raised bogs still capable of natural regeneration and Depressions on peat substrates of the Rhynchosporion. These habitats are listed on Annex I of the EU Habitats Directive   |
| Peterswell Turlough SAC                 | 000318    | Designated for the presence of a turlough and Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation. These habitats are listed in Annex I of the EU Habitats Directive.   |
| Pollnacknockaun Wood Nature Reserve SAC | 000319    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles. This habitat is listed on Annex I of the EU Habitats Directive.   |
| River Shannon Callows SAC               | 000216    | Designated for Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) , Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ), Alkaline fens, Limestone pavements, Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) and <i>Lutra lutra</i> (Otter).<br><br>These habitats are listed on Annex I of the EU Habitats Directive. Otter is listed in Annex II and Annex IV of the Habitats Directive.                            |
| Rosturra Wood SAC                       | 001313    | Designated for Old sessile oak woods with Ilex and Blechnum in the British Isles. This habitat is listed on Annex I of the EU Habitats Directive.   |
| Scohaboy (Sopwell) Bog SAC              | 002206    | Designated for Degraded raised bogs still capable of natural regeneration. This habitat is listed on Annex I of the EU Habitats Directive.  |
| Silvermine Mountains SAC                | 000939    | Designated for Northern Atlantic wet heaths with <i>Erica tetralix</i> and Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe). These habitats are listed on Annex I of the EU Habitats Directive.  |
| Silvermines Mountains West SAC          | 002258    | Designated for Northern Atlantic wet heaths with <i>Erica tetralix</i> , European dry heaths and Calaminarian grasslands of the <i>Violetalia</i>   |

| Designated SAC  | Site Code | Qualifying Interests   |
|-----------------|-----------|--|
|                 |           | <i>calaminariae</i> . These habitats are listed on Annex I of the EU Habitats Directive.   |
| Sonnagh Bog SAC | 001913    | Designated for Blanket bogs (* if active bog). This habitat is listed on Annex I of the EU Habitats Directive.   |
| Tory Hill SAC   | 000439    | Designated for Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites), Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> and Alkaline fens. These habitats are listed on Annex I of the EU Habitats Directive. |

**Table 5.6.2 List of Special Protection Areas (SPAs) in the Clare County Development Plan Area**

| Designated SPA                               | Site Code | Reason for Designation   |
|--|-----------|--|
| Cliffs of Moher SPA                          | 004005    | This site is significant for the presence of the Breeding Peregrine ( <i>Falco peregrinus</i> ) and the Chough ( <i>Pyrrhocorax pyrrhocorax</i> ) which are listed under Annex I of the EU Birds Directive. It is also designated for the presence of Fulmar ( <i>Fulmarus glacialis</i> ), Kittiwake ( <i>Rissa tridactyla</i> ), Guillemot ( <i>Uria aalge</i> ), Razorbill ( <i>Alca torda</i> ), and Puffin ( <i>Fratercula arctica</i> ). This site has the largest Kittiwake ( <i>Rissa tridactyla</i> ) and Razorbill ( <i>Alca torda</i> ) colonies in Ireland.  |
| Inner Galway Bay SPA & Ramsar Site           | 004031    | Designated for the presence of the following species which are listed under Annex I of the EU Birds Directive: Red-throated Diver ( <i>Gavia stellata</i> ), Black-throated Diver ( <i>Gavia artica</i> ), Great Northern Diver ( <i>Gavia immer</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ), Bar-tailed Godwit ( <i>Limosa ponica</i> ), Sandwich Tern ( <i>Sterna sandvicensis</i> ) and Common Tern ( <i>Sterna hirundo</i> ). Also found at this site are the Cormorant ( <i>Phalacrocorax carbo</i> ), Grey Heron ( <i>Ardea cinerea</i> ), Light-Bellied Brent Goose ( <i>Branta bernicla hrota</i> ), Wigeon ( <i>Anas Penelope</i> ), Teal ( <i>Anas crecca</i> ), Shoveler ( <i>Anas clypeata</i> ), Red-Breasted Merganser ( <i>Mergus serrator</i> ), Ringed Plover ( <i>Charadrius hiaticula</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ), Northern Lapwing ( <i>Vanellus vanellus</i> ), Dunlin ( <i>Calidris alpina</i> ), Curlew ( <i>Numenius arquata</i> ), Redshank ( <i>Tringa tetanus</i> ), Turnstone ( <i>Arenaria interpres</i> ), Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) and the Common Gull ( <i>Larus canus</i> ). |
| Ballyallia Lake Wildfowl Sanctuary SPA       | 004041    | This site is significant as the Whooper Swan ( <i>Cygnus Cygnus</i> ), a species listed under Annex I of the EU Birds Directive can be located here. In addition, the Shoveler ( <i>Anas</i> ) population is the largest in Ireland and the Gadwall ( <i>Anas strepera</i> ) population is also highly significant.  |
| Lough Derg (Shannon) SPA                     | 004058    | Designated for the presence of the Common Tern ( <i>Sterna hirundo</i> ), Whooper Swan ( <i>Cygnus Cygnus</i> ) and the Greenland White-fronted Goose ( <i>Anser albifrons flavirostris</i> ) which are listed under Annex I of the EU Birds Directive. The site also has nationally breeding populations of Cormorant ( <i>Phalacrocorax carbo</i> ) and specifically during winter there are significant populations of Tufted Duck ( <i>Aythya fuligula</i> ) and Goldeneye ( <i>Bucephala clangula</i> ).  |
| River Shannon and River Fergus Estuaries SPA | 004077    | The following species listed under Annex I of the EU Birds Directive can be found at this site: Whooper Swan ( <i>Cygnus Cygnus</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ) and the Bar-tailed Godwit ( <i>Limosa lapponica</i> ). In addition, it has internationally important populations of Dunlin ( <i>Calidris alpina</i> ), Black-tailed Godwit ( <i>Limosa limosa</i> ) and Redshank ( <i>Tringa totanus</i> ). In addition, the following species can also be found at this location: Cormorant ( <i>Phalacrocorax carbo</i> ), Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ), Shelduck ( <i>Tadorna</i>   |

| Designated SPA              | Site Code | Reason for Designation  |
|-----------------------------|-----------|---|
|                             |           | tadorna), Wigeon ( <i>Anas penelope</i> ), Teal ( <i>Anas crecca</i> ), Pintail ( <i>Anas acuta</i> ), Shoveler ( <i>Anas clypeata</i> ), Scaup ( <i>Aythya marila</i> ), Ringed Plover ( <i>Charadrius hiaticula</i> ), Grey Plover ( <i>Pluvialis squatarola</i> ), Northern Lapwing ( <i>Vanellus vanellus</i> ), Knot ( <i>Calidris canutus</i> ), Curlew ( <i>Numenius arquata</i> ), Greenshank ( <i>Tringa nebularia</i> ) and the Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ).  |
| Illaunonearaun SPA          | 004114    | Designated for the presence of the Barnacle Goose ( <i>Branta leucopsis</i> ), a species listed under Annex I of the EU Birds Directive. The population of Barnacle Geese at this site often exceeds the qualifying threshold for National Importance.  |
| Loop Head SPA               | 004119    | This site is significant for the presence of breeding Chough ( <i>Pyrrhonorax pyrrhonorax</i> ) and Peregrine ( <i>Falco peregrinus</i> ), species listed under Annex I of the EU Birds Directive. The site also has populations of Kittiwake ( <i>Rissa tridactyla</i> ) and Guillemot ( <i>Uria aalge</i> ) which are of National Importance.   |
| Slieve Aughty Mountains SPA | 004168    | Designated for the presence of the Hen Harrier ( <i>Circus cyaneus</i> ), a species listed under Annex I of the EU Birds Directive. This is the second largest concentration for this species in Ireland. Another Annex I species, Merlin ( <i>Falco columbarius</i> ) can be found at this site.   |
| Mid – Clare Coast SPA       | 004182    | Significant species at this site include the Barnacle Goose ( <i>Branta leucopsis</i> ), Storm Petrel ( <i>Hydrobates pelagicus</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ), Great Northern Diver ( <i>Gavia immer</i> ), and Red-throated Diver ( <i>Gavia stellata</i> ) which are listed under Annex I of the EU Birds Directive. It has a nationally important breeding colony of Cormorant ( <i>Phalacrocorax carbo</i> ) during the summer. It is also an important site for the presence of Ringed Plover ( <i>Charadrius hiaticula</i> ), Sanderling, |
| Corofin Wetlands SPA        | 004220    | Designated for the presence of the Whooper Swan ( <i>Cygnus Cygnus</i> ) and the Golden Plover ( <i>Pluvialis apricaria</i> ) were are listed under Annex I of the EU Birds Directive. In addition, the site supports nationally important populations of Little Grebe ( <i>Tachybaptus ruficollis</i> ), Wigeon ( <i>Anas penelope</i> ), Teal ( <i>Anas crecca</i> ) and the Black-tailed Godwit ( <i>Limosa limosa</i> ).  |
| Connemara Bog Complex SPA   | 004181    | Designated for the presence of SCI birds Cormorant ( <i>Phalacrocorax carbo</i> ), Merlin ( <i>Falco columbarius</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ) and Common Gull ( <i>Larus canus</i> ).  |
| Coole-Garryland SPA         | 004107    | Designated for the presence of SCI birds Whooper Swan ( <i>Cygnus cygnus</i> ). The site is of international importance for Whooper Swan (214), which utilise it for both feeding and roosting purposes   |
| Cregganna Marsh SPA         | 004142    | Designated for the presence of SCI birds Greenland White-fronted Goose ( <i>Anser albifrons flavirostris</i> ). The site is of major conservation importance as a feeding site for a nationally important flock of Greenland White-fronted Goose (157 – 5 year mean peak between 1994/95 and 1998/99). The birds using this site form part of the Rahasane flock.   |
| Inishmore SPA               |           | Designated for the presence of SCI birds Kittiwake ( <i>Rissa tridactyla</i> ), Arctic Tern ( <i>Sterna paradisaea</i> ), Little Tern ( <i>Sterna albifrons</i> ) and Guillemot ( <i>Uria aalge</i> ).  |
| Kerry Head SPA              | 004189    | Designated for the presence of SCI birds Fulmar ( <i>Fulmarus glacialis</i> ) and Chough ( <i>Pyrrhonorax pyrrhonorax</i> ). The site supports an internationally important population of breeding Chough, a Red Data Book species that is listed on Annex I of the E.U. Birds Directive; 32 breeding pairs were recorded from the site in the 1992 survey and 30 in the 2002/03 survey. In addition, a flock of 20 birds was noted on the northern coast of the site during the latter survey. The site is of  |

| Designated SPA  | Site Code | Reason for Designation  |
|---|-----------|---|
|   |           | particular note for the density of breeding pairs found. The site also supports a nationally important population of Fulmar (421 pairs).  |
| Lough Corrib SPA  | 004042    | Designated for the presence of SCI birds Gadwall ( <i>Anas strepera</i> ), Shoveler ( <i>Anas clypeata</i> ), Pochard ( <i>Aythya ferina</i> ), Tufted Duck ( <i>Aythya fuligula</i> ), Common Scoter ( <i>Melanitta nigra</i> ), Hen Harrier ( <i>Circus cyaneus</i> ), Coot ( <i>Fulica atra</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ), Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ), Common Gull ( <i>Larus canus</i> ), Common Tern ( <i>Sterna hirundo</i> ), Arctic Tern ( <i>Sterna paradisaea</i> ) and Greenland White-fronted Goose ( <i>Anser albifrons flavirostris</i> ). |
| Lough Cutra SPA   | 004056    | Designated for the presence of SCI birds Cormorant ( <i>Phalacrocorax carbo</i> ). Lough Cutra is a long-established breeding site for Cormorant (166 pairs in 1985) although numbers have declined in recent years (34 pairs in 1996). The birds breed on Parsons Island and appear to commute to the coast for feeding.   |
| Middle Shannon Callows SPA  | 004096    | Designated for the presence of SCI birds Whooper Swan ( <i>Cygnus cygnus</i> ), Wigeon ( <i>Anas penelope</i> ), Corncrake ( <i>Crex crex</i> ), Golden Plover ( <i>Pluvialis apricaria</i> ), Lapwing ( <i>Vanellus vanellus</i> ), Black-tailed Godwit ( <i>Limosa limosa</i> ) and Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ).  |
| Slievefelim to Silvermines Mountains SPA                                    | 004165    | Designated for the presence of SCI bird Hen Harrier ( <i>Circus cyaneus</i> ).  |
| Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA | 004161    | Designated for the presence of SCI bird Hen Harrier ( <i>Circus cyaneus</i> ).  |



Figure 5.6.1 Special Areas of Conservation within County Clare

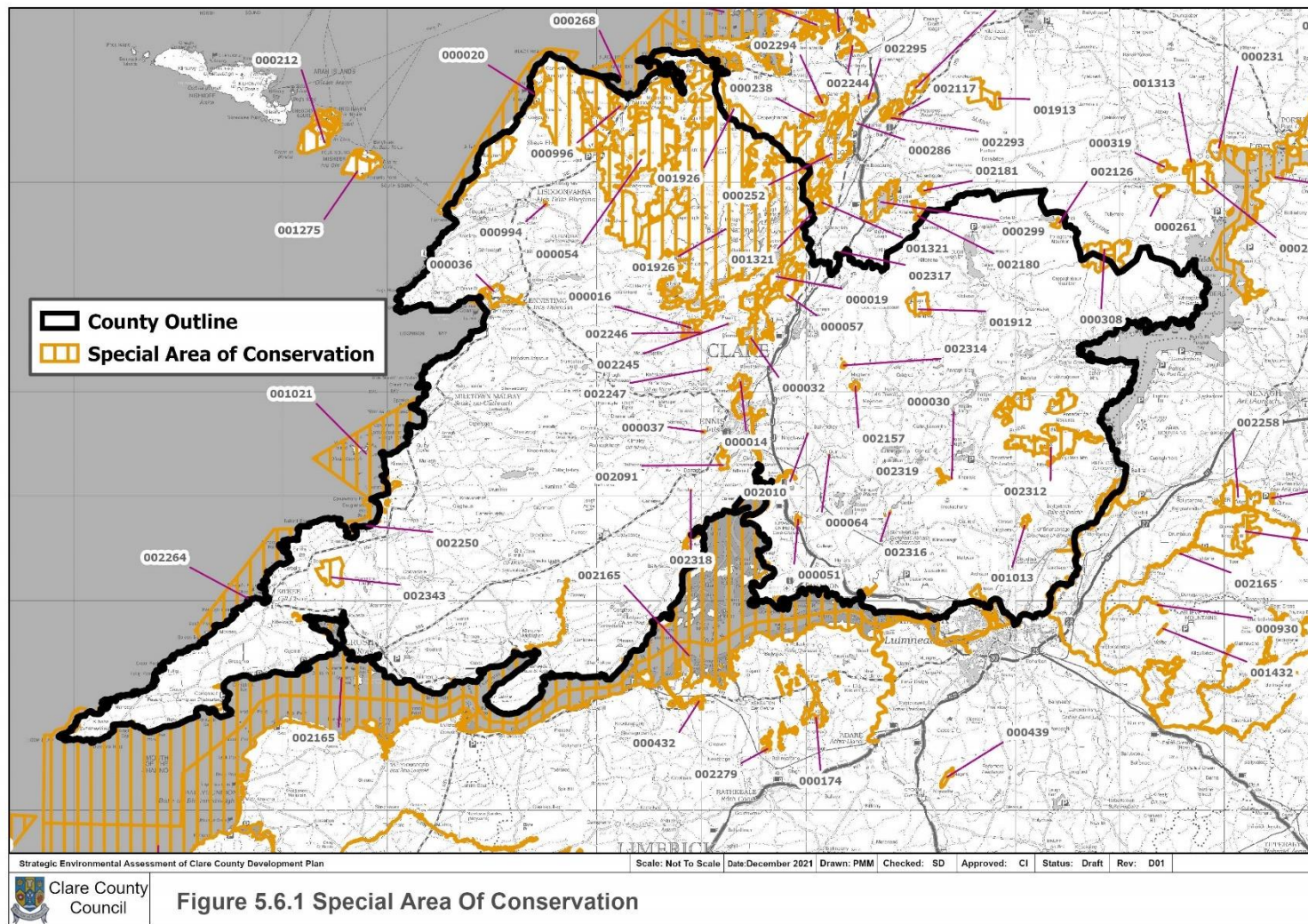
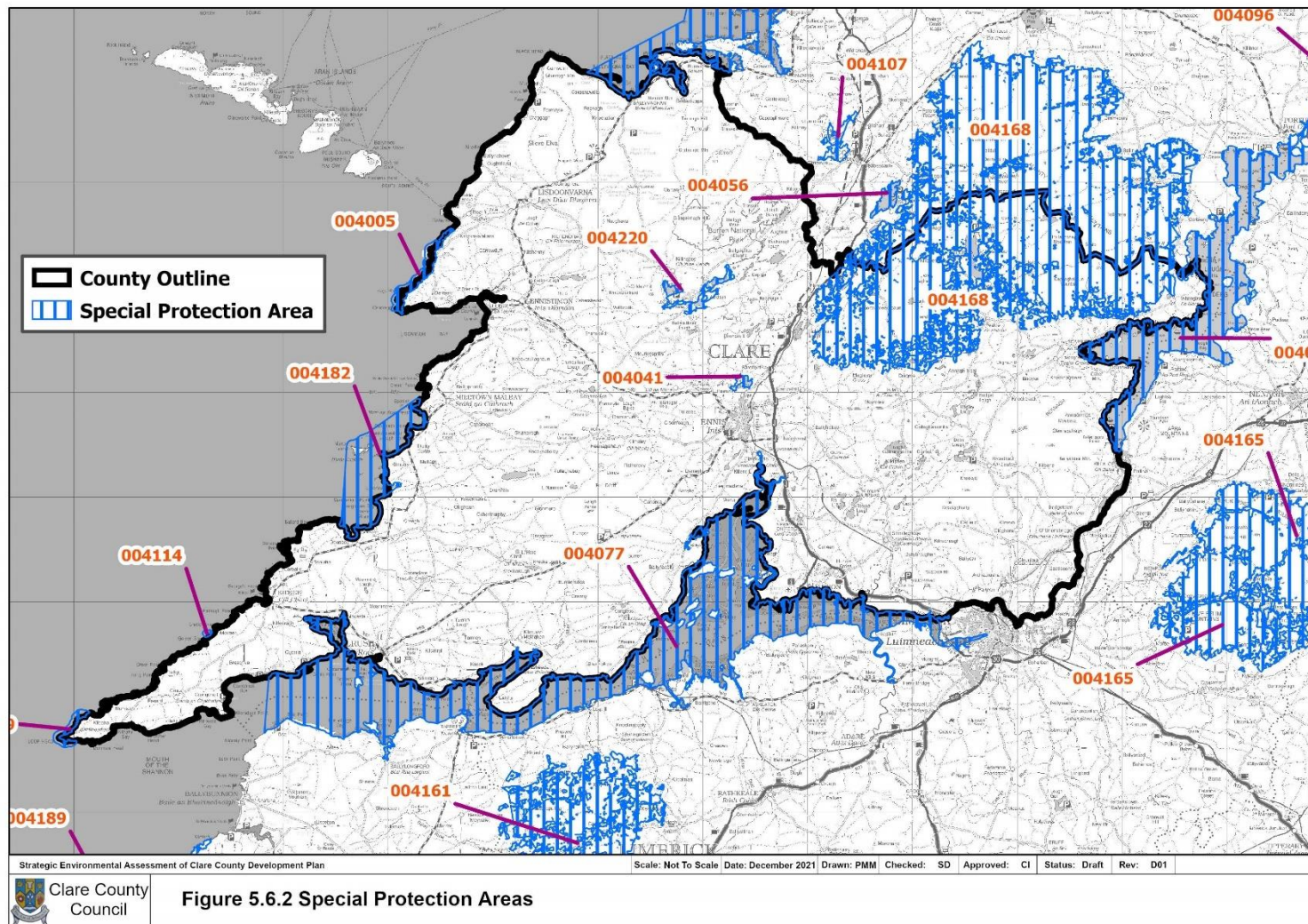




Figure 5.6.1 Special Protection Areas within County Clare



A full assessment of the CDP against the qualifying interests and conservation objectives of the designated sites is undertaken throughout the appropriate assessment process which has been undertaken in conjunction with the CDP Plan and SEA processes and is presented in the Natura Impact Report (See Volume 10(c))

### 5.6.6 Proposed Natural Heritage Areas

Under the Wildlife Amendment Act (2000), Natural Heritage Areas are legally protected from damage from the date they are formally proposed for designation. The aim of the NHA network is to conserve and protect nationally important plant and animal species and their habitats. They are also designated to conserve and protect nationally important landforms, geological or geomorphological features. Planning authorities are obliged by law to ensure that these sites are protected and conserved. NHAs and pNHAs, although not part of the European network, often provide an important supporting role to it. Therefore, to protect the European network, it may be important to protect the NHA/pNHA's. Article 10 of the Habitats Directive together with the Habitats Regulations 2011; place a high degree of importance on these sites as features that connect European sites. There are 14 NHAs and 61 pNHAs within and adjacent to the Development Plan area and are listed in **Tables 5.6.3** and **5.6.4** and shown in **Figure 5.6.3**.

**Table 5.6.3 List of Natural Heritage Areas (NHA) in the Clare County Development Plan Area**

| Designated NHA                  | Site Code | Reasons for Designation  |
|---------------------------------|-----------|--|
| Doon Lough Bog NHA              | 000337    | This site consists of raised bog which is a rare habitat within the EU. This NHA is significant due to its location. It is one of the most westerly raised bogs in Ireland.  |
| Ayle Lower Bog NHA              | 000993    | A raised bog which is a rare habitat within the EU can be found at this location This NHA is of significant importance due to its location. It is one of the most westerly raised bogs in Ireland and it seems to have semi-natural margins along the stream that flows through it.  |
| Illaunonearaun NHA              | 001014    | The island is regularly used in winter by a Barnacle Goose flock. Flock size varies as birds move between here and Mutton Island to the north; up to 200 birds have been recorded (as, for example, in spring 1988), but numbers are usually less than this, such as in 1994 (22 birds) and 1998 (142 birds). The island is an important breeding site for seabirds. A Cormorant colony was established in the 1970s and 60 individuals were recorded in 1995. Other species which breed include Fulmar (10 pairs in 1993), Great Black-backed Gull (c. 25 pairs), Lesser Black-backed Gull (35 pairs in 1999) and Herring Gull (6 pairs in 2002). |
| Loughanilloon Bog NHA           | 001020    | This site consists of raised bog which is a rare habitat within the EU. It supports a range of microhabitats, including hummocks and a flush. The diversity of the site is enhanced by the presence of a lake.   |
| Slieve Aughty Bog NHA           | 001229    | Supports a significant area of upland blanket bog, a globally scarce resource.   |
| Cloonlough More Bog NHA         | 002307    | A raised bog which is a rare habitat within the EU can be found at this location This NHA is of significant importance due to its location as it is one of the few remaining raised bogs in the County.  |
| Lough Naminna Bog NHA           | 002367    | This site is of significant conservation interest as it consists of an upland blanket bog. It is a globally scarce resource.   |
| Lough Atorick District Bogs NHA | 002377    | Designated for the presence of upland blanket bog with intermediary characteristics between blanket and raised bog types.  |
| Slievecallan Mountain Bog NHA   | 002397    | This site contains an upland blanket bog and is one of the few intact areas of blanket bog in the County. A diverse range of flora and fauna can be found at this location.  |



| Designated NHA            | Site Code | Reasons for Designation  |
|---------------------------|-----------|--|
| Cragnashingaun Bogs NHA   | 002400    | It consists of both upland and lowland blanket bog. A diversity of flora and fauna can be found within a range of blanket bog microhabitats at this location.  |
| Gortacullin Bog NHA       | 002401    | Designated for the presence of upland blanket bog and wet heath. A range of blanket bog microhabitats such as hummock/ hollow complexes, flushes and regenerating cutover with willow and birch scrub can be found here.   |
| Woodcock Hill Bog NHA     | 002402    | This site consists of upland blanket bog which is a globally scarce resource. Wet heath can also be found here.  |
| Lough Acrow Bogs NHA      | 002421    | Designated for the presence of upland blanket bog. A range of microhabitats can be found here including a deep, wet bog associated with a well-developed pool complex.   |
| Oysterman's Marsh NHA     | 002439    | This site contains a significant area of lowland blanket bog, a globally scarce resource.  |
| Maghera Mountain Bogs NHA | 002442    | Consists of a diversity of habitats such as, heath, flush, scrub and upland blanket bog which is the dominant habitat.   |
| Bleanbeg Bog NHA          | 002450    | Bleanbeg Bog NHA consists primarily of upland blanket bog and is located approximately 7 km east of Newport in south Tipperary   |
| Bunnaruddee Bog NHA       | 001352    | The site comprises a raised bog that includes both areas of high bog and cutover bog. The site is surrounded by streams to the east and west and a river to the south.   |
| Carrigkerry Bogs NHA      | 002399    | Carrigkerry Bogs NHA consists of two upland blanket bogs that are both located within 2.5 km of the village of Carrigkerry, Co. Limerick.  |
| Cregganna Marsh NHA       | 000253    | The predominant habitats on the site are lowland wet grassland and improved grassland, but areas of limestone pavement and other exposed rock, Hazel ( <i>Corylus avellana</i> ) scrub, freshwater marsh, drainage ditches and dry grassland are also represented.   |
| Derryoover Bog NHA        | 002379    | Derryoover Bog NHA is a lowland blanket bog situated approximately 2 km east of Lough Derg and 5 km south of Woodford in east Co. Galway. The site contains an extensive area of lowland blanket bog that has formed in depressions between low-lying hills and lies between an altitude range of 50 m to 100m |
| Grageen Fen And Bog NHA   | 002186    | Grageen Fen and Bog NHA is an upland bog and alkaline fen located on the southern side of the Slievefelim Mountains, approximately 6 km east of Moroe and 7 km south-east of Newport, Co. Limerick   |
| Moycullen Bogs NHA        | 002364    | Moycullen Bogs NHA is an extensive lowland blanket bog located 5 km west of Galway City in Co. Galway.   |
| Moyreen Bog NHA           | 002361    | Moyreen Bog NHA is an area of lowland blanket bog located 8 km south east of Glin, 7 km south of Loughill and 10 km south west of Foynes in the townland of Moyreen in north Co. Limerick.   |
| Schoaboy Bog NHA          | 000937    | Schoaboy Bog NHA is a large raised bog situated 4 km south-east of Borrisokane, in County Tipperary. The site comprises a relatively large raised bog that includes both areas of high bog and cutover   |

**Table 5.6.4 List of Proposed Natural Heritage Areas (pNHA) in the Clare County Development Plan Area**

| Proposed Natural Heritage Area      | Site Code | Reason for Designation   |
|-------------------------------------|-----------|--|
| Lough Derg pNHA                     | 000011    | Description of pNHA not available, see Lough Derg (Shannon) SPA description.   |
| Ballyallia Lake pNHA                | 000014    | Description of pNHA not available, see Ballyallia Lake SAC.  |
| Ballycar Lough pNHA                 | 000015    | This is a small calcareous lake. It has a considerable ecological value which stems from the transitory state of the fen vegetation on the northern limb. At this site, bog vegetation such as the Bog-myrtle ( <i>Myrica gale</i> ) and the Purple Moor-grass ( <i>Molinia caerulea</i> ) has invaded a fen community so that conditions are finely balanced between the two.   |
| Ballycullinan Lake pNHA             | 000016    | Description of pNHA not available, see Ballycullinan Lake SAC description.   |
| Ballyogan Lough pNHA                | 000019    | Description of pNHA not available, see Ballyogan Lough SAC description.  |
| Black Head-Poulsallagh Complex pNHA | 000020    | Description of pNHA not available, see Black Head- Poulsallagh Complex SAC description.  |
| Cahermurphy Wood pNHA               | 000022    | The conservation value of this site comes from the presence of oak woodland which is on relatively fertile soil. Ireland has very few areas of this woodland.  |
| Cliffs of Moher pNHA                | 000026    | Description of pNHA not available, see Cliffs of Moher SPA description   |
| Clonderalaw Bay pNHA                | 000027    | Description of pNHA not available.   |
| Cloonlara House pNHA                | 000028    | This is a site of international importance and is one of the biggest nursery sites in Ireland and Europe for the Leisler Bat ( <i>Nyctalus leisleri</i> ).   |
| Danes Hole, Poulnalecka pNHA        | 000030    | Description of pNHA not available, see description of Danes Hole, Poulnalecka SAC.   |
| Dromore Woods and Loughs pNHA       | 000032    | Description of pNHA not available, see description of Dromore Woods and Loughs SAC.  |
| Durra Castle pNHA                   | 000033    | Its significance lies in the fact that it is one of the few nursery sites at the eastern edge of the distribution of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) in Ireland. There is also a suitable foraging habitat in close proximity to the site.  |
| Fort Fergus (Ballynaccally) NHA     | 000035    | This site is of national importance for the presence of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ). It is one of the few known areas in Munster where this species is found.   |
| Inagh River Estuary                 | 000036    | Description of pNHA not available, see description of Inagh River Estuary SAC.   |
| Pouladatig Cave                     | 000037    | Description of pNHA not available, see description of Pouladatig Cave SAC.   |
| Inchicronan Lough pNHA              | 000038    | A wide range of habitats can be found around the lake and include an area of cut-over bog to the north, Ash ( <i>Fraxinus excelsior</i> ) and Hazel ( <i>Corylus avellana</i> ) woodland along the eastern shore, a complex mosaic of wet grassland, dense scrub and marsh at the southern end and a habitat of significant interest on the western side of the lake due to the presence of the Limerick-Sligo railway line. |
| Loop Head pNHA                      | 000045    | No description of pNHA available, see description of Loop Head SPA.  |
| Lough Goller pNHA                   | 000048    | This site is designated for the presence of the Spring Quillwort ( <i>Isoetes echinospora</i> ) growing on the southern shore of the lake and is a rare plant in Ireland.  |

|                                     |        |   |
|-------------------------------------|--------|---|
| Derrygeeha Lough pNHA               | 000050 | This is only one of two stations at which the rare Caddisfly ( <i>Cyrnus insolutus</i> ) can be found in Ireland. It is a site of international importance.   |
| Lough Gash Turlough pNHA            | 000051 | Description of pNHA not available, see description of Lough Gash Turlough SAC.  |
| Moneen Mountain pNHA                | 000054 | Description of pNHA not available, see description of Moneen Mountain SAC.  |
| Moyree River System pNHA            | 000057 | Description of pNHA not available, see description of Moyree River System SAC.  |
| Newpark House (Ennis) pNHA          | 000061 | Description not available.  |
| Paradise House (Ballynacally) pNHA  | 000062 | A site of national importance as it is one of the few Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) roosts known in this area of Munster.  |
| Poulnagordon Cave (Quin) pNHA       | 000064 | Description of pNHA not available, see description of Poulnagordon Cave SAC.  |
| Poulnasherry Bay pNHA               | 000065 | Description not available.  |
| Tullaheer Lough and Bog NHA         | 000070 | Description of pNHA not available, see description of Tullaheer Lough and Bog SAC.  |
| Turloughnagullaun pNHA              | 000071 | This is a diverse turlough in topography and vegetation. It contains rare and unusual plant species including the Red Data Book species Fen Violet ( <i>Viola persicifolia</i> ) is located here.   |
| Farrihy Lough pNHA                  | 000200 | Consists of a brackish lake which is of great importance to large numbers of waders and duck during winter. This site has a good range of habitats supporting a variety of floral species. The influence of the sea is reflected in the vegetation with many maritime species recorded from the area which include Thrift ( <i>Armeria maritima</i> ), Buck's-horn Plantain ( <i>Plantago coronopus</i> ) and Common Scurvygrass ( <i>Cochlearia officinalis</i> ). |
| Castle Lake pNHA                    | 000239 | This site consists of diversity of wetland and woodland habitats which range from open water and reed-beds to lakeside wet deciduous woodland to ash/oak woodland and scrub to species-rich wet fields and marsh.   |
| Galway Bay Complex pNHA             | 000268 | Description of pNHA not available, see description of Galway Bay Complex SAC.   |
| Loughatorick South Bog pNHA         | 000308 | Description of pNHA not available, see description of Loughatorick South Bog SAC.   |
| Ballyteige (Clare) pNHA             | 000994 | Description of pNHA not available, see description of Ballyteige (Clare) SAC.   |
| Ballyvaughan Turlough pNHA          | 000996 | Description of pNHA not available, see description of Ballyvaughan Turlough SAC.  |
| Cahiracon Wood pNHA                 | 001000 | Description not available.  |
| Cahiracalla Wood pNHA               | 001001 | It is a great example of relatively intact mostly native woodland. The presence of scrub, wet woodland and limestone pavement provides for habitat diversity at this location.  |
| Cloonsnaghta Lough pNHA             | 001004 | This site is significant as a population of Arctic Char ( <i>Salvelinus alpinus</i> ) can be found here. This species is listed in the Irish Red Data Book.   |
| White Strand/ Carrowmore Marsh pNHA | 001007 | Description not available.  |
| Dromoland Lough pNHA                | 001008 | Designated for the presence of a diverse range of marsh species which include Bottle Sedge ( <i>Carex rostrata</i> ), Slender Sedge ( <i>C. lasiocarpa</i> ), Tufted-sedge ( <i>C. elata</i> ), Lesser Tussock-sedge ( <i>C. diandra</i> ), Greater Pond-sedge ( <i>C. riparia</i> ), Fibrous Tussock-sedge ( <i>C. appropinquata</i> ),  |

|  |        |   |
|--|--------|---|
|  |        | Long-stalked. Yellow-sedge ( <i>C. lepidocarpa</i> ), Reed Canary grass ( <i>Phalaris arundinacea</i> ), Grass-of-parnassus ( <i>Parnassia palustris</i> ) and Eyebright ( <i>Euphrasia scottica</i> ).   |
| Fin Lough (Clare) pNHA                             | 001010 | The beetle, <i>Panagaeus cruxmajor</i> has been recorded twice at this location. This is one of a small number of stations for this insect in Ireland.  |
| Garrannon Wood pNHA                                | 001012 | This site is significant as it has a fairly intact and mature oak ( <i>Quercus spp</i> ) wood.  |
| Glenomra Wood pNHA                                 | 001013 | Description of pNHA not available, see description of Glenomra Wood SAC.  |
| Gortglass Lough pNHA                               | 001015 | Designated for the presence of the Artic Char ( <i>Salvelinus alpinus</i> ). In addition, it is a good example of an acid lake with typical surrounding vegetation.   |
| Lough Cullaunyeeda pNHA                            | 001017 | This site contains nationally important numbers of Tufted Duck ( <i>Aythya fuligula</i> ) and Coot ( <i>Fulica atra</i> ).  |
| Lough O’Grady pNHA                                 | 001019 | Designated for the presence of Greenland White-fronted Geese ( <i>Anser albifrons flavirostris</i> ). It also contains a diverse range of habitats which include open water, wet grassland/ marsh, wet woodland and scrub.  |
| Carrowmore Point to Spanish Point and Islands pNHA | 001021 | Description of pNHA not available, see description of Carrowmore Point to Spanish Point and Islands SAC.  |
| Caherkinallia Wood pNHA                            | 001024 | This site is significant as it contains one of the few remaining deciduous woodlands in this area of Clare. The Sessile Oak ( <i>Quercus petraea</i> ) is the most dominant species. A lower canopy of wood consists of Hazel ( <i>Corylus avellana</i> ), Holly ( <i>Ilex aquifolium</i> ), Downy Birch ( <i>Betula pubescens</i> ) and Rowan ( <i>Sorbus aucuaria</i> ).  |
| St. Senan’s Lough pNHA                             | 001025 | Designated for the presence of a significant marsh habitat which contains peat- forming Sphagnum moss ( <i>Sphagnum spp.</i> ) and cut-away bog.  |
| Termon Lough pNHA                                  | 001321 | Description of pNHA not available.  |
| Lough Cleggan pNHA                                 | 001331 | This site has a diverse range of habitats and plant species which include the Common Reed ( <i>Phragmites australis</i> ), Bottle Sedge ( <i>Carex rostrata</i> ), Yellow Irish ( <i>Iris pseudacorus</i> ), Hazel ( <i>Corylus avellana</i> ), Willow ( <i>Salix spp.</i> ), Ash ( <i>Fraxinus excelsior</i> ), Rushes ( <i>Juncus spp.</i> ), Marshmarigold ( <i>Caltha palustris</i> ), and Meadowsweet ( <i>Filipendula ulmaria</i> ). The lake is of local importance for wintering waterfowl. Breeding bird species include the Tufted Duck ( <i>Aythya fuligula</i> ) and Coot ( <i>Fulica atra</i> ). |
| Cloonamirran Wood pNHA                             | 001686 | A good example of the relatively rare habitat – wet mixed deciduous woodland on raised bog. It is also a fine example of plant succession.  |
| Lough Graney Woods pNHA                            | 001714 | This site is significant as it contains acid woodland where succession and regeneration is occurring naturally. The wood is a native mixed woodland   |
| Scattery Island pNHA                               | 001911 | Description not available.  |
| Glendree Bog pNHA                                  | 001912 | Description of pNHA not available, see description of Glendree Bog SAC.   |
| East Burren Complex pNHA                           | 001926 | Description of pNHA not available, see description of East Burren Complex SAC.  |
| Knockalisheen Marsh pNHA                           | 002001 | The site is of high ecological value in that it is a good example of unimproved pasture and wetland with good botanical diversity. This habitat type is now scarce, particularly so close to an urban environment. The site is notable for the presence of several species of orchid, including Marsh Helleborine ( <i>Epipactis palustris</i> ). There is also a colony of Skullcap ( <i>Scutellaria galericulata</i> ), a wetland plant which is rare in County Clare.  |

|  |        |   |
|--|--------|---|
| Old Domestic Building (Keevagh) pNHA               | 002010 | Description of pNHA not available, see description of Old Domestic Building (Keevagh) SAC.  |
| Fergus Estuary and Inner Shannon, North Shore pNHA | 002048 | Description not available.  |
| Rosroe Lough pNHA                                  | 002054 | Designated for the presence of Holly ( <i>Ilex aquifolium</i> ) -dominated scrub and associated grassland. This location contains a finely struck balance between the requirements of moisture and acid-loving species and those requiring a more demanding dry, alkaline regime.   |
| Newhall and Edenvale Complex pNHA                  | 002091 | Description of pNHA not available, see description of Newhall and Edenvale Complex SAC.   |
| Adare Woodlands pNHA                               | 000429 | Designated for Woodlands containing species such as Sessile Oak ( <i>Quercus petraea</i> ), Ash ( <i>Fraxinus excelsior</i> ) and Downy Birch ( <i>Betula pubescens</i> ) occur, intermingled with exotics such as Turkey Oak ( <i>Quercus cerris</i> ), Beech ( <i>Fagus sylvatica</i> ) and Sweet Chestnut ( <i>Castanea sativa</i> ).  |
| Ardagh Church, Newcastlewest (Disused) pNHA        | 000430 | A nursery colony of Natterer's Bat ( <i>Myotis nattereri</i> ) uses the loft and bell tower of the church. Over 100 bats were counted at the site in 1993 making it one of the biggest in the country.  |
| Ballinvirick Marsh pNHA                            | 001427 | Description of pNHA not available, see Askeaton Fen Complex SAC site synopsis   |
| Ballylongford Bay pNHA                             | 001332 | Description of pNHA not available, see Lower River Shannon SAC site synopsis  |
| Ballymorrisheen Marsh pNHA                         | 001425 | This is a small to medium sized wetland site characterised by three small waterbodies with fen vegetation/habitat along the shores, dominated by Saw Sedge <i>Cladium mariscus</i> and Common Reed <i>Phragmites australis</i> . The conservation importance of this site is in its value as a wildlife refuge in an intensively managed landscape. Because of its Loughs and pools, which vary considerably in size and depth this area contains a wider range of habitat types. |
| Ballyvorheen Bog pNHA                              | 001849 | Description not available.  |
| Barrigone pNHA                                     | 000432 | Description of pNHA not available, See Barrigone SAC site synopsis.   |
| Barroughter Bog pNHA                               | 000231 | Description of pNHA not available, See Barroughter Bog SAC site synopsis.   |
| Beal Point pNHA                                    | 001335 | Beal Point is a small coastal site and sand dune system on the southern shore of the mouth of the Shannon Estuary.  |
| Caherglassaun Turlough pNHA                        | 000238 | Description of pNHA not available, See Caherglassaun Turlough SAC site synopsis.  |
| Cappagh Fen pNHA                                   | 001429 | Description not available.  |
| Cashen River Estuary pNHA                          | 001340 | Description not available.  |
| Castleconnell (Domestic Dwelling, Occupied) pNHA   | 000433 | Description not available.  |
| Castletaylor Complex pNHA                          | 000242 | Description of pNHA not available, See Castletaylor Complex SAC site synopsis.  |
| Clare Glen pNHA                                    | 000930 | Fen containing <i>Tomentypnum nitens</i> , <i>Dumortiera hirsuta</i> , <i>Hygroamblystegium fluviatile</i> and <i>Lejeunea eckloniana</i> .   |
| Clareen Lough pNHA                                 | 000929 | Description not available.  |
| Cloonmoylan Bog pNHA                               | 000248 | Description of pNHA not available, See Cloonmoylan Bog SAC site synopsis.   |
| Connemara Bog Complex pNHA                         | 002034 | Description of pNHA not available, See Connemara Bog Complex SAC site synopsis  |

|  |        |  |
|--|--------|--|
| Coole-Garryland Complex pNHA             | 000252 | Description of pNHA not available, See Coole-Garryland Complex SAC site synopsis   |
| Curraghchase Woods pNHA                  | 000174 | Description of pNHA not available, See Curraghchase Woods SAC site synopsis  |
| Derrycrag Wood Nature Reserve pNHA       | 000261 | Description of pNHA not available, See Derrycrag Wood Nature Reserve SAC site synopsis   |
| Derrygareen Heath pNHA                   | 000931 | This is a rocky area of shallow peaty soils over Old Red Sandstone geology. The vegetation is that of un-reclaimed heathland, dominated by Heather ( <i>Calluna vulgaris</i> ) with Cross-leaved Heath ( <i>Erica tetralix</i> ), and grasses such as Common Bent ( <i>Agrostis capillaris</i> ).  |
| Dromore & Bleach Loughs pNHA             | 001030 | This is a rocky area of shallow peaty soils over Old Red Sandstone geology. The vegetation is that of un-reclaimed heathland, dominated by Heather ( <i>Calluna vulgaris</i> ) with Cross-leaved Heath ( <i>Erica tetralix</i> ), and grasses such as Common Bent ( <i>Agrostis capillaris</i> ).  |
| Dromsallagh Bog pNHA                     | 001850 | Dromsallagh Bog is a small site of cutaway raised bog and its associated habitats  |
| Fiagh Bog pNHA                           | 000932 | It is not a bog in the true sense but a calcium-rich fen formed over Lower Limestone. Derrinvohil Bog, just to the west, is a lowland raised bog. Together these sites have been proposed for designation as a Natural Heritage Area.  |
| Furbogh Wood pNHA                        | 001267 | The site consists of Oak ( <i>Quercus</i> spp.) woodland bordering the Furbogh River. The woodland is dominated by Oak with a Hazel ( <i>Corylus avellana</i> ) and Birch ( <i>Betula pubescens</i> ) understory. The flora of the woodland is diverse. The foliose lichen <i>Lobaria scrobicularia</i> has been recorded from the woodland.   |
| Glenastar Wood pNHA                      | 001431 | This is a small woodland site comprised primarily of Oak ( <i>Quercus petraea</i> ), and Birch ( <i>Betula pubescens</i> ). This site is of flora and fauna interest and provides an important wildlife refuge in the region.  |
| Glenstal Wood pNHA                       | 001432 | Description of pNHA not available, See Glenstal Wood SAC site synopsis   |
| Gorteennamrock pNHA                      | 001433 | This small wetland site is located c. 5km to the south east of Askeaton. Fen habitat present is dominated by Saw Sedge to the north and Common Reed further south. This is considered of conservation significance as a wildlife refuge in an otherwise managed landscape. The fen habitat is of botanical interest and the site may support Otter, <i>Lutra lutra</i>   |
| Inisheer Island pNHA                     | 001275 | Description of pNHA not available, See Inisheer Island SAC site synopsis   |
| Inishmaan Island pNHA                    | 000212 | Description of pNHA not available, See Inishmaan Island SAC site synopsis  |
| Inner Shannon Estuary - South Shore pNHA | 000435 | This pNHA is part of the River Shannon Estuary and is comprised of extensive intertidal mudflats, fringing reedbeds, swamps, polders, salt marsh and wet marsh habitats; habitats which support many thousands of wading birds and duck. Greenland White-fronted and Greylag Geese frequent the southern shores of the estuary during the winter months. The estuary is also a stronghold for two rare plant species; triangular rush <i>Scirpus triqueter</i> and summer snowflake <i>Leucojum pestirum</i> |
| Keeper Hill pNHA                         | 001197 | Description of pNHA not available, See Keeper Hill SAC site synopsis   |
| Kiltartan Cave (Coole) pNHA              | 000286 | Description of pNHA not available, See Kiltartan Cave (Coole) SAC site synopsis  |
| Kiltiernan Turlough pNHA                 | 001285 | Description of pNHA not available, See Kiltiernan Turlough SAC site synopsis   |
| Lough Avan pNHA                          | 001995 | Lough Avan is a wetland area situated to the north-east of the village of Coolbaun in North Tipperary. A high degree of habitat diversity  |



|  |        |  |
|--|--------|--|
|  |        | exists for a site of this size, ranging from lakes and ponds through to dry broadleaved woodland.  |
| Lough Corrib pNHA                        | 000297 | Description of pNHA not available, See Lough Corrib SAC site synopsis  |
| Lough Cutra pNHA                         | 000299 | Description of pNHA not available, See Lough Cutra SAC site synopsis   |
| Lough Fingall Complex pNHA               | 000606 | Description of pNHA not available, See Lough Fingall Complex SAC site synopsis   |
| Lough Ourna pNHA                         | 000650 | No description available   |
| Loughmore Common Turlough pNHA           | 000438 | Designated for the presence of a turlough.   |
| Moanveanlagh Bog pNHA                    | 000374 | Description of pNHA not available, See Moanveanlagh Bog SAC site synopsis  |
| Newchapel Turlough pNHA                  | 000653 | Designated for the presence of a turlough.   |
| Peterswell Turlough pNHA                 | 000318 | Description of pNHA not available, See Peterswell Turlough SAC site synopsis   |
| Pollduagh Cave, Gort pNHA                | 000320 | Designated as a Daubenton's Nursery roost.   |
| Pollnacknockaun Wood Nature Reserve pNHA | 000319 | Description of pNHA not available, See Pollnacknockaun Wood Nature Reserve SAC site synopsis   |
| River Shannon Callows pNHA               | 000216 | Description of pNHA not available, See River Shannon Callows SAC site synopsis   |
| Rosturra Wood pNHA                       | 001313 | Description of pNHA not available, See Rosturra Wood SAC site synopsis   |
| Silvermine Mountains pNHA                | 000939 | Description of pNHA not available, See Silvermine Mountains SAC site synopsis  |
| Skoolhill pNHA                           | 001996 | Two woodlands occur here, with a mixture of native tree species such as Ash ( <i>Fraxinus excelsior</i> ), Hazel ( <i>Corylus avellana</i> ), Hawthorn ( <i>Crataegus monogyna</i> ) and oak ( <i>Quercus spp.</i> ) as well as exotics like Beech ( <i>Fagus sylvatica</i> ) and Sycamore ( <i>Acer pseudoplatanus</i> ). |
| Sonnagh Bog pNHA                         | 001913 | Description of pNHA not available, See Sonnagh Bog SAC   |
| Spring Park Wetlands pNHA                | 000941 | No description available.  |
| Sturamus Island pNHA                     | 001436 | Supports a Common Tern breeding colony   |
| Tarbert Bay pNHA                         | 001386 | Description of pNHA not available, See Lower River Shannon SAC site synopsis   |
| Tory Hill pNHA                           | 000439 | Description of pNHA not available, See Tory Hill SAC Site synopsis   |
| Willsborough Esker pNHA                  | 000943 | Speceis of note on site include Hazel ( <i>Corylus avellana</i> ), Ash ( <i>Fraxinus excelsior</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Holly ( <i>Ilex aquifolium</i> ), Gorse ( <i>Ulex europaeus</i> ), ( <i>Euonymus europaeus</i> ) and Yew ( <i>Taxus baccata</i> ).   |

Figure 5.6.2 NHA's within County Clare

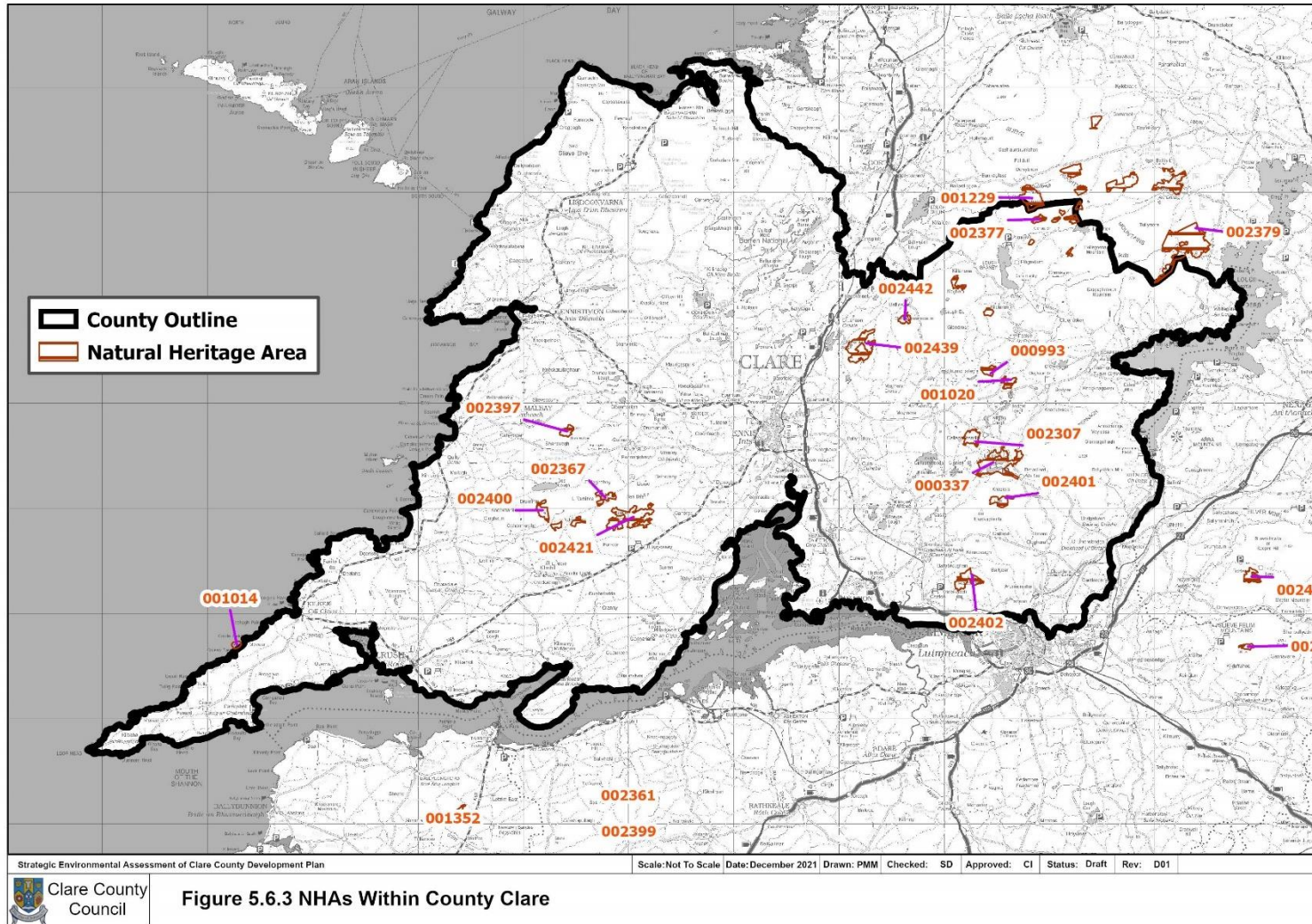
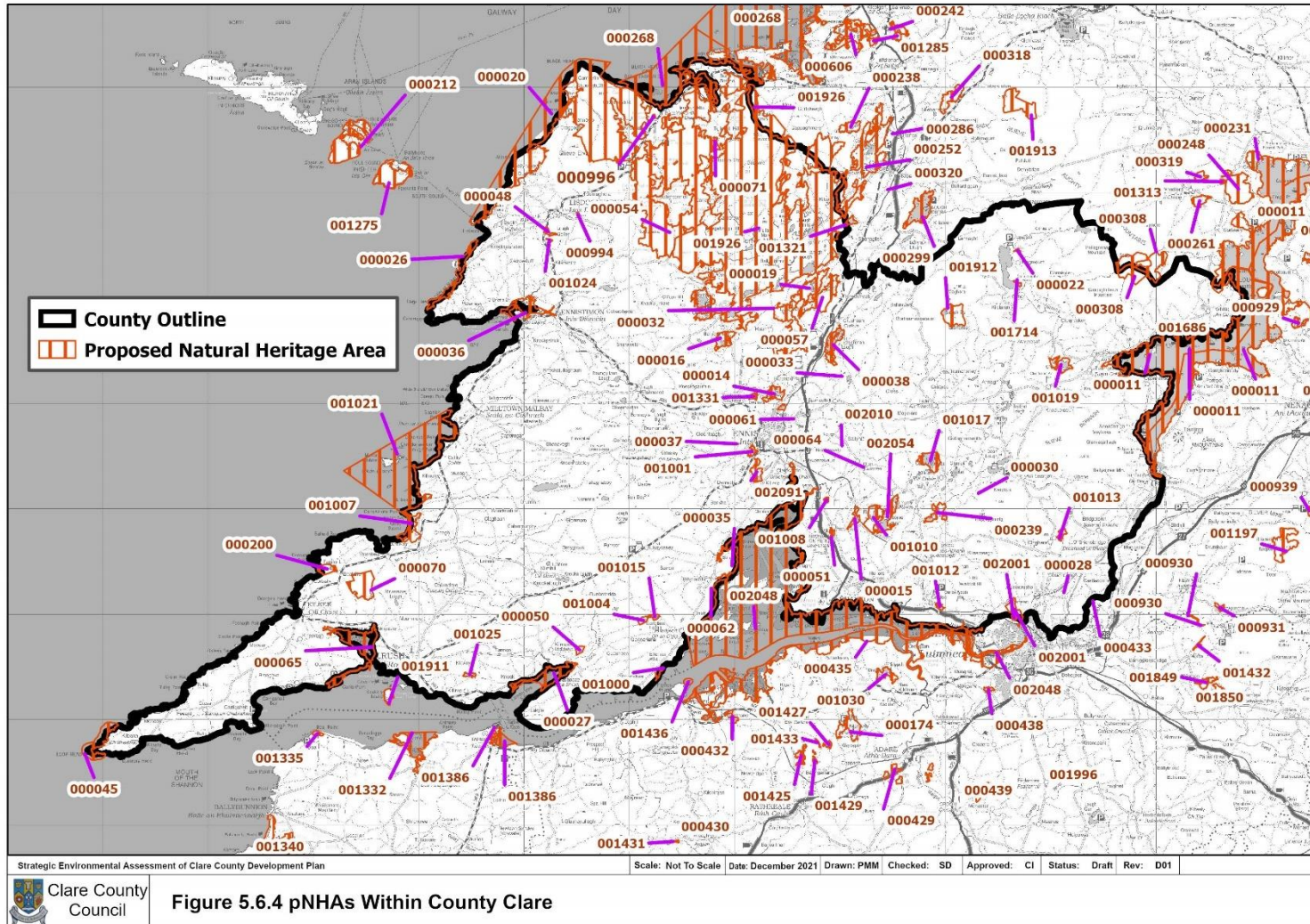




Figure 5.6.3 pNHA's within County Clare



### 5.6.7 Ramsar Sites

There is one wetland within the County which is designated as a Ramsar Site which is of international importance ecologically, especially regarding wetland waterfowl. This site is included in **Table 5.6.5** and shown on **Figure 5.6.5**.

**Table 5.6.5 Ramsar Sites within the Plan area**

| Ramsar Site     | Site Code | Designated for the presence of the following <sup>2</sup>   |
|-----------------|-----------|---|
| Ballyallia Lake | 845       | 308ha including two small lakes set in heavily farmed land, with a low-lying flood plain of wet grassland and rough grazing. Site supports internationally and nationally important numbers of various species of waterbirds. |

Other Ramsar sites within vicinity of the County boundary include Inner Galway Bay, Coole Lough and Garryland Wood.

### Other Sites of Environmental and Ecological Importance

#### 5.6.8 Salmonid Regulated Waters

Salmonid Waters are protected waters under S.I. No. 293/1988 European Communities (Quality of Salmonid Waters) Regulations, 1988. Clare has two salmonid protected waters within the county. This is the main channel of the River Fergus, and it includes the Clooneen (Clare) which forms the upper reaches of the River Fergus. See **Figure 5.6.5** for salmonid regulated river locations.

#### 5.6.9 Burren National Park

The Burren National Park is located in the south-eastern corner of the Burren, which is located in the northern part of County Clare and is approximately 1500ha in size. Highly significant habitats can be found in the Burren which include; Limestone Pavement, Calcareous grassland, Hazel scrub, Ash/Hazel woodland, Turloughs, Lakes, Petrifying springs, Cliffs and Fen. Mammals recorded in the Burren National Park include Irish Hare (*Lepus timidus hibernicus*) and Otter (*Lutra lutra*). The Burren and Cliffs of Moher have successfully retained its Geopark designation for a further period following a reassessment and revalidation by the UNESCO supported Global Geopark Network in September 2015. See **Figure 5.6.5** for the location of the Burren National Park in Clare.

#### 5.6.10 Statutory Nature Reserves

A nature reserve is an area of importance to wildlife, which is protected under Ministerial order. Most are owned by the State although some are owned by organisations or private landowners. There are four statutory nature reserves in the county, and these are set out in **Table 5.6.6**. The extent of each Nature Reserve was also used as part of the Environmental Sensitivity map (See **Figure 5.6.5** and **Section 5.12 of the SEA ER.**)

<sup>2</sup> <http://irishwetlands.ie/irish-sites/>

**Table 5.6.6 Statutory Nature Reserves within the County**

| Name  | Location  | Details   |
|---|---|---|
| Ballyteigue Nature Reserve                            | 2km east of Lisdoonvarna                              | 6.4ha of primarily molinia meadows (wet grassland) habitat. The marsh orchid is found in abundance on the site. Hare, Snipe, Common Frog and Orange Tip Butterfly can also be found on the site.  |
| Caher (Murphy) Nature Reserve                         | In the Slieve Aughty Mountains                        | 9ha of oak wood on moist fertile soil and contains a rich ground flora.   |
| Dromore Wood Nature Reserve                           | Near Ruan, 10km north of Ennis                        | 370ha of rivers, lakes, turloughs and callows, limestone pavement, fen peat, reed and rush beds and vast areas of species rich woodland. The area comprises perfect habitat for a huge variety of flora and fauna species. Pine marten, red squirrel, several active badger sets, stoat, fox, and hares are common in the reserve. At least eight of the nine species of Irish bars are known to inhabit the woodland including several bat roosts. The lakes (fed by the River Fergus) provide perfect habitat for otters, coots, grebe, moorhen, water rail and heron. Teal, wigeon, goldeneye and tufted duck, pochard and shoveler feed on flooded meadows during winter. Whooper swans, and white-tailed eagles have visited during winter. Large varieties of Irish butterflies, dragonflies and damselflies. |
| Keelhilla (Slieve Carron/Eagle's Rock) Nature Reserve | Situated in the north-east edge of the Burren plateau | A good example of karst topography containing three distinct vegetation communities i.e. woodland, scrub grassland and pavement.  |

### 5.6.11 Wildfowl Sanctuaries

Wildfowl sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. Shooting of game birds is not allowed in these sanctuaries of which there are 5 within the county. These are listed below and shown on **Figure 5.6.5**:

- Mutton Island
- Islandavanna
- Tullagher Lough
- Ballyallia Lough
- Inagh River (part of)

### 5.6.12 Protected Birds in Clare

Twenty SPA's are found within County Clare and are listed above in **Table 5.6.2** along with their SCI birds for which the designations are given. Clare is a very important county for protected bird species, boasting both a coastal bird populations and populations that are found primarily inland. Protected areas of note include the vast River Shannon and Fergus Estuaries SPA and the Lough Derg SPA.

The National Parks and Wildlife Service has been involved in the monitoring of hen harrier at the national scale for nearly twenty years. National breeding surveys have been undertaken on a five-year basis since the turn of the last century. The latest national survey estimated the population in the republic of Ireland to be 108 – 157 breeding pairs<sup>3</sup>.

<sup>3</sup> [https://www.npws.ie/sites/default/files/files/Hen%20Harrier%20Web%20Conent%20\(2\).pdf](https://www.npws.ie/sites/default/files/files/Hen%20Harrier%20Web%20Conent%20(2).pdf)

Slieve Aughty Mountains SPA is found within County Clare and is the only SPA in Clare designated for Hen Harrier. The Hen Harrier Threat Response Plan was developed to avoid and eliminate threats to the Hen Harrier. The NPWS began the plan in 2013. In 2017 a Position Statement was released by Birdwatch Ireland and the Irish Raptor Study Group detailing the requirements for delivering an effective Hen Harrier Threat Response Plan.

The following principles were outlined by both parts and are vital to delivery of the plan;

- Applying scientific information;
- Apply the Precautionary Principle where scientific evidence is lacking;
- Provide clarity and transparency to stakeholders;
- Incentivise Hen Harrier conservation;
- Set Conservation Objectives;
- No further afforestation in the SPA network;
- Adequate protection of Hen Harrier populations outside the SPA network;
- Establish guidelines for wind energy impact assessments and post-construction monitoring and;
- Adequate protection of important non-breeding sites for Hen Harrier.

The OPW has biodiversity initialise in place in Scatterry Island off the coast of Clare. This island is a hen harrier nesting site and through the NPWS and the OPW visitors access routes have been adapted to protect these nesting sites on Scatterry Island, Co. Clare<sup>4</sup>.

In 2020, the NPWS in tandem with the Golden Eagle Trust began a second phase White-Tailed Eagle reintroduction project to bolster the existing eagle population in Ireland. The original reintroduction programme (2007-2011) involved releasing 100 young white-tailed eagles in Killarney National Park and the second phase builds upon those results. The released eagles subsequently dispersed widely throughout Ireland with the first successful breeding occurring in 2012 on Lough Derg, County Clare. By July 2020, a small breeding population of eight to ten pairs had successfully fledged 31 chicks across counties Cork, Kerry, Clare, Galway and Tipperary.

The new phase of the reintroduction programme (2020-2022) involves the release of young eagles at several sites, including Lough Derg and the Lower Shannon estuary both within Clare. In early June 2020, the project began with the collection of ten chicks from nests in Norway (under licence by the Norwegian Institute for Nature Research). The juvenile White-tailed Eagles were flown into Kerry airport and were held in specially built aviaries in Munster before being released in August 2020. All of the birds were wing-tagged and satellite tagged. By early 2021, the satellite tracks showed they had spread out across Munster and northwards up the Shannon River.

The Irish Raptor Study Group (IRSG) is a voluntary organisation, formed in 1994, that specialises in the deployment of volunteer fieldworkers with highly specialised skills in the identification and survey of Raptors (Birds of Prey) and Owls. The IRSG has two primary aims, namely to (a) promote the conservation and protection of all wild breeding and migratory Raptor species and their habitats in Ireland and (b) encourage research and monitoring of all Raptor species and the publication of such work where appropriate. A key element of the Groups work is to collect and collate data to determine

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<sup>4</sup> <https://www.eolasmagazine.ie/driving-initiative-for-biodiversity/>



the abundance, distribution, and population trends of Raptors. The IRSG have been involved in all national surveys of Raptor species to date (including Peregrine and Hen Harrier) and are actively pursuing an All-Ireland Raptor Monitoring Scheme. The most recent review was published in 2019 and summaries Raptor (and Owl) nest monitoring records submitted to the Irish Raptor Study Group for the 2018 breeding season<sup>5</sup>. This includes a Merlin survey conducted within the Slieve Aughty Mountains SPA with one breeding pair identified.

Birdwatch Ireland have prepared a bird wind sensitivity mapping tool for wind energy developments, part funded by the EPA. This is a pre-planning tool to assist developers/planners/ecologists to understand the sensitivity of selected bird species. The tool does not create ‘no-go’ areas but rather can be used to inform the appropriate siting of wind energy developments. It is hosted on the National Biodiversity Data Centre live maps. See **Figure 5.6.6** for Bird Sensitivity Mapping of Ireland <sup>6</sup>.

Birdwatch Ireland supported by Clare County Council also conducted surveys of Swifts in County Clare in the summer of 2020. Swifts are a small migratory bird that visits Ireland each year to nest. They travel from southern Africa. Swifts have adapted to nesting in cavities where found in buildings in our cities, towns, and villages. Their future is seriously threatened in Ireland due primarily to the loss of existing nesting sites, owed to renovations of older buildings without provisions for Swifts being made and their exclusion from modern buildings due to modern design and materials removing suitable access and nesting crevices typical in older structures. Finding, recording, and mapping swift nesting sites is core to the Clare Swift Survey 2020. Identifying key areas is the first step in halting the decline of swift populations.

EirGrid produced a literature review and evidence-based field study on the effects of high voltage transmission lines on birds in 2016<sup>7</sup>. Weekly searches over 2 months at three transmission power line sites in Ireland identified as potentially high risk for bird collisions produced estimated collision rates of 0.08 casualties per km per day (30 per km per year) at Moystown Demesne, 0.03 casualties per km per day (9 per km per year) at Ballymacegan, and 0 casualties per km per day at Clonony More.

These means are based on very small numbers of bird remains found at each site, with most visits yielding no remains, so should be treated with caution as estimates of the mean at each site are very sensitive to small variations in the numbers found. These rates are also minimal estimates, uncorrected for bias in relation to scavenger removal, observer search efficiency, or crippling (where birds which strike a power line fly out of the search area for bird remains, and may either die as a result of injuries, or recover). Estimated collision rates from field searches under ‘high risk’ transmission sites in Ireland in 2013 varied from 0 to 0.49 birds per km per day (0 to 179 birds per km per year). These rates have not been corrected for any potential bias and are considered to be minimum estimates. These rates were found to be similar to that of available literature throughout the world.

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<sup>5</sup> Wilson-Parr, R. & O'Brien, I. (Eds.) 2019. Irish Raptor Study Group Annual Review 2018

<http://irsg.ie/IRSGAR2018.pdf>

<sup>6</sup> [https://birdwatchireland.ie/app/uploads/2019/09/BWI-Bird-Wind-Energy-devt-Sensitivity-Mapping-Guidance\\_document.pdf](https://birdwatchireland.ie/app/uploads/2019/09/BWI-Bird-Wind-Energy-devt-Sensitivity-Mapping-Guidance_document.pdf)

<sup>7</sup> <https://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Evidence-Based-Environmental-Study-5-Birds.pdf>

The thin wire at the top of powerlines is widely reported as the main cause of bird collisions. Collisions with powerlines are considered to be rare events. Most studies conclude that mortality from collisions is unlikely to affect bird populations. However, where rare or protected species occur, impacts could be significant. Measures to reduce bird collisions include careful line route assessments and the marking of lines to make them more visible to birds. Research shows positive results from marking lines, with reductions in bird deaths of 50% or more. The location for marked sections of transmission line is determined by survey and analysis of bird movements. Monitoring the effectiveness of the line marking is recommended.

The Moneypoint to Dunstown 400Kv power line was not assessed in this study. Power generated in Moneypoint Power Station Co. Clare is currently transported across the country on two high-voltage power lines to the Dunstown substation in Kildare and Woodland substation in Meath. These two 400Kv power lines pass through<sup>8</sup> Mid and South Clare on their way to the east of the country.

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<sup>8</sup> <https://storymaps.arcgis.com/stories/c7ec4696b65846feb1a384b85d39dde2>

Figure 5.6.4 Ramsar Sites, Statutory Nature Reserve, Wildfowl Sanctuaries, Burren National Park, Salmonid Waters

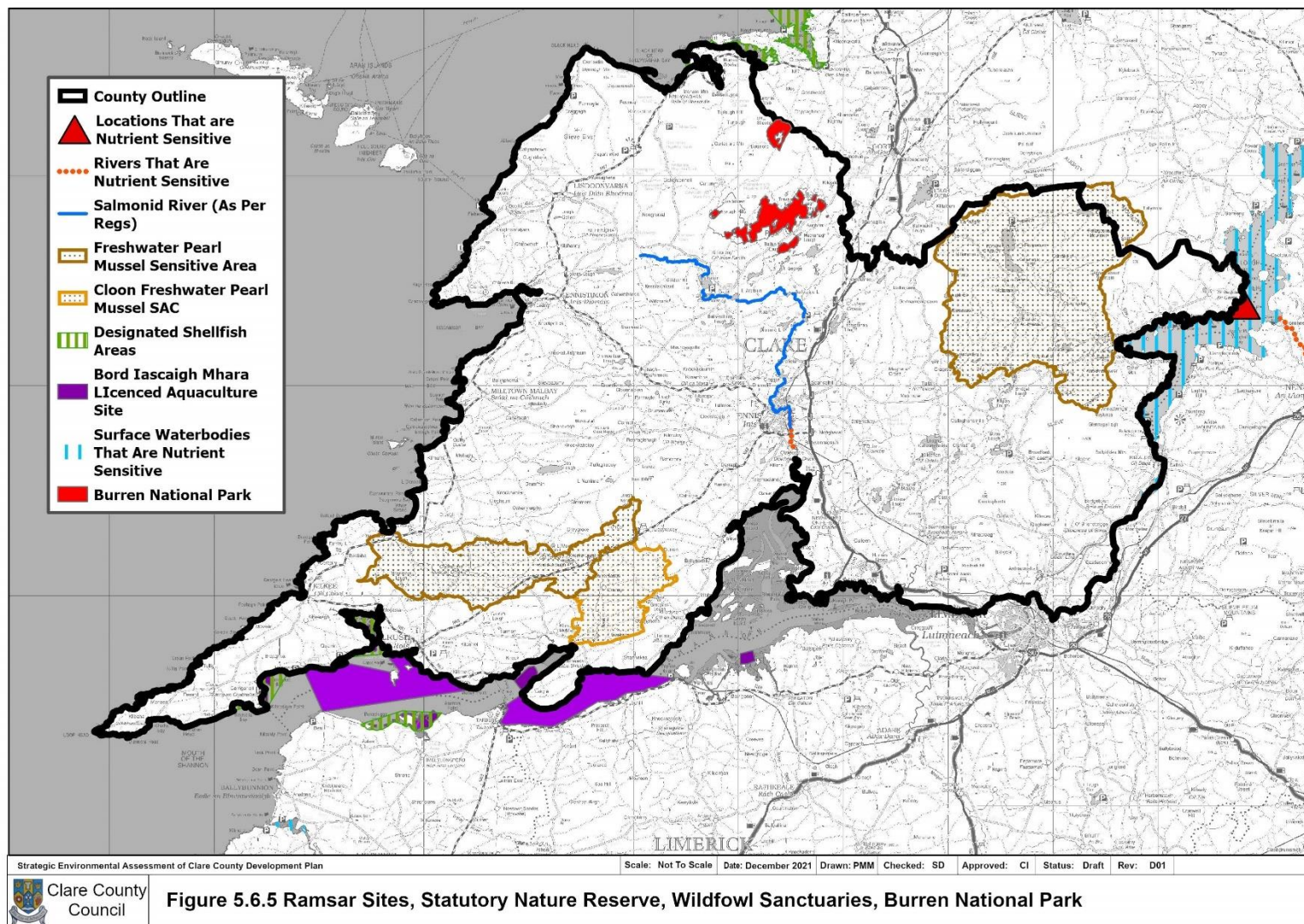




Figure 5.6.5 Bird Sensitivity Mapping

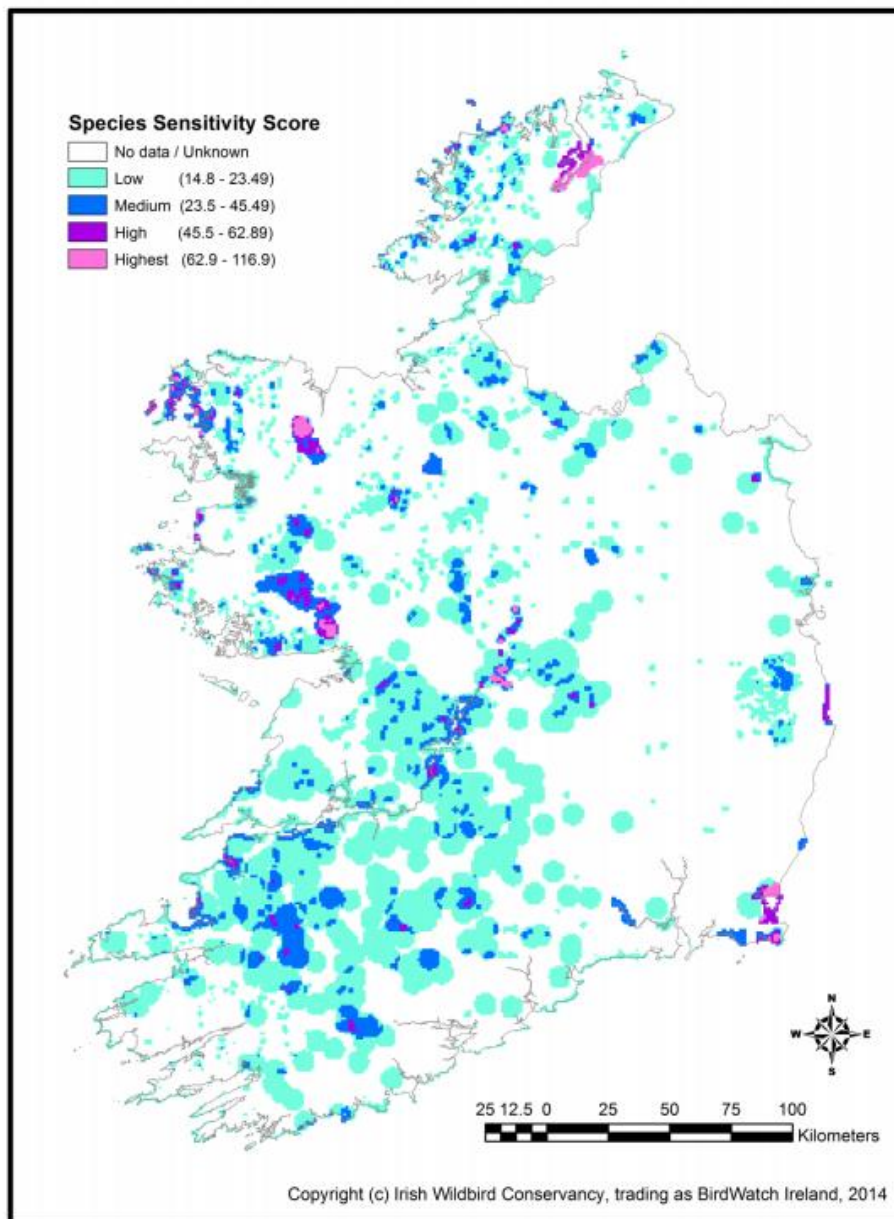


Figure 8: Composite Sensitivity Map of mainland Republic of Ireland, following mapping and assessment of 22 key species of birds in relation to the risk posed by wind energy development. Note that those areas not coloured are not necessarily without sensitive species, but do not contain species with sensitivities less than 14.8 SSS.

### 5.6.12 Peatlands

Peat soils cover 20.6% of the national land area. The original area of raised bogs in the State was approximately 311,000ha and the original area of blanket bogs was approximately 774,000ha. Approximately 5.7% of the landcover in the county is peatland (19600ha). The presence of these bog habitats and their international importance is reflected in the high number of sites with natural heritage designations as shown in **Tables 5.6.3** and **Table 5.6.4**. Whilst many of the bogs are protected through their designation as National Heritage Areas under the Wildlife Amendment Act, there are other areas that are not protected which lie outside of the NHA designation. Ireland has nominated 53 sites as Raised Bog SACs under the EU Habitats Directive and therefore is required under the directive to put in place measures to protect these sites from deterioration. The aim of the National Raised Bog SAC Management Plan 2017-2022 is to provide clarity to all parties regarding how Ireland's network of raised bog SACs will be managed, conserved and restored into the future. This will be done in co-operation with landowners, turf-cutters and local communities and in keeping with legal obligations and commitments such as under the European Union (EU) Habitats Directive (Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC). The plan sets national restoration targets for raised bog habitats that require the restoration of the national network of raised bog SACs and Natural Heritage Areas (NHAs)<sup>9</sup>. Within Clare four raised bog NHAs and one raised bog SAC have been identified;

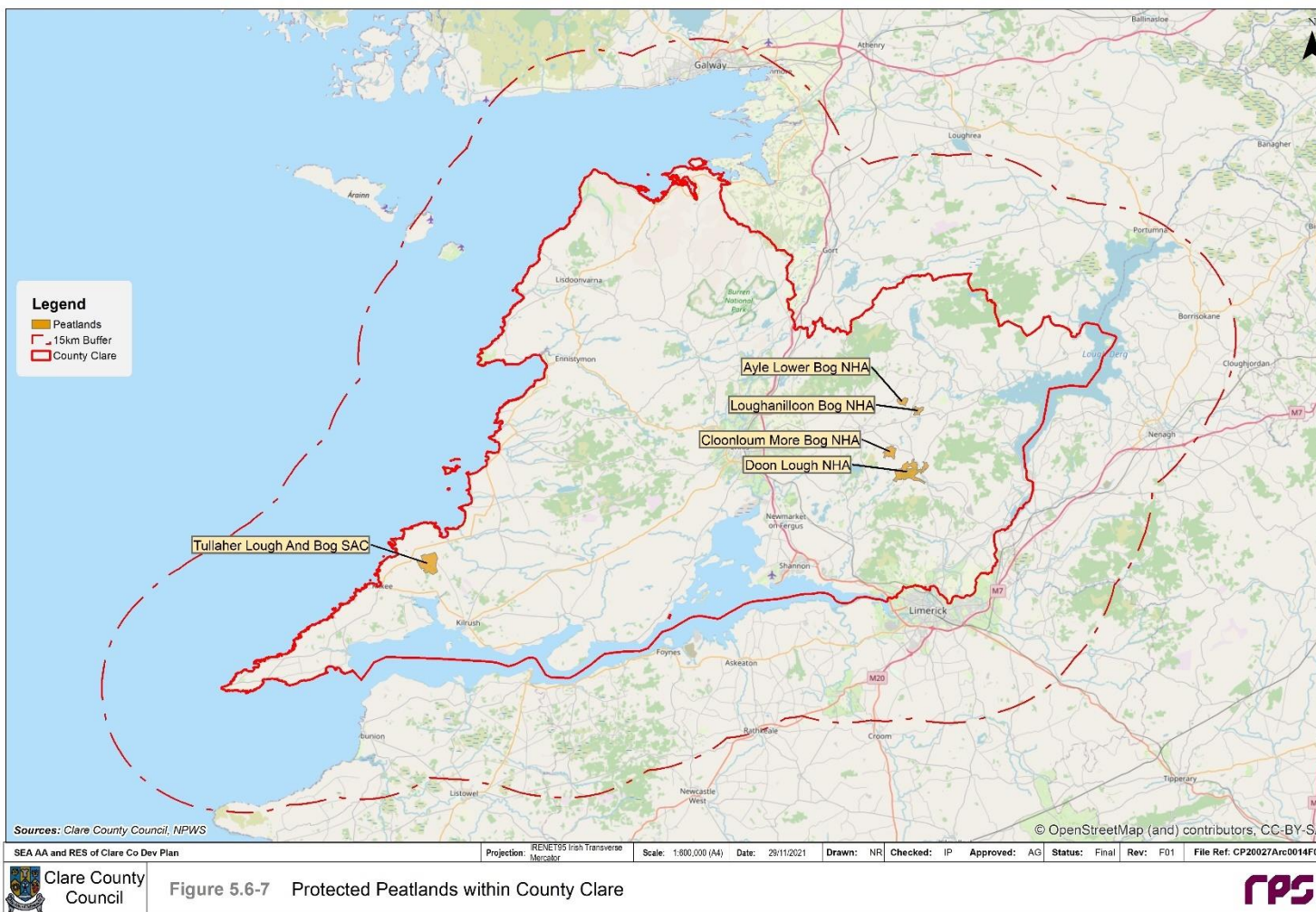
- Tullagher Lough and Bog SAC – 002343
- Ayle Lower Bog NHA – 000993
- Loughanilloon Bog NHA – 001020
- Cloonloun More bog NHA – 002307
- Doon Lough Bog NHA – 000337

These 5 raised bogs can be seen in **Figure 5.6.7**

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<sup>9</sup> [https://www.npws.ie/sites/default/files/files/FOR%20UPLOAD%20Plan\(WEB\\_English\)\\_05\\_02\\_18%20\(1\).pdf](https://www.npws.ie/sites/default/files/files/FOR%20UPLOAD%20Plan(WEB_English)_05_02_18%20(1).pdf)

Figure 5.6.6 Protected Peatlands within County Clare



### 5.6.13 Wetlands

A wetland is an area that is saturated by water and this saturation has allowed specially adapted plants and animals to establish. Clare is home to many different wetland types due to the wet climate, topography, geology, hydrology, and soil types. Many of these are regarded as being internationally important.

Wetlands are effectively the border between the open water and dry land. Reeds, sedges, water forget-me-not, marsh marigold and purple loosestrife provide cover for ducks and wading birds. Other wetlands, such as bogs, heath, and fens, occur where the water table is close to the surface, or where the bedrock is impenetrable.

Wetlands, such as fens and bogs, only retain carbon if they are moist. Therefore, when a bog or fen is drained or infilled, they become major carbon sources, releasing huge quantities of carbon dioxide into the atmosphere as the peat decays and oxidises. In addition, the changing conditions result in the loss of water dependant species. Changes in water quality as a result of pollution (from surface run-off, WWTPs etc.) also significantly impact wetlands.

The value of wetlands includes their function in improving water quality, for floodwater storage whereby they can slow down the force of flood and storm waters as they travel downstream; habitat for wildlife; support biodiversity; provide valuable open space and create recreational opportunities; are vital for preventing further climate change by acting as carbon storage and are part of cultural heritage<sup>10</sup>.

A revised map of wetlands in Ireland was produced by Wetlands Survey Ireland in 2016. The most recent wetland site additions to the Clare wetland map are “new or potential” wetland sites located through an aerial photographic analysis combined with sub soils data, together with habitat mapping studies undertaken in east Clare between 2008 and 2010. Prior to this most recent review, 389 wetland sites had been identified within the county which were designated under SACs, SPAs, NHAs and pNHAs. This mapping project has located an additional 361 wetland sites throughout the county, bringing the total number to sites identified in Clare to 750<sup>11</sup>. The majority of the “new” potential sites identified have limited associated information on the wetland habitats that are likely to occur on the sites. Future county wetland surveys are required to address this information deficit. **Figure 5.6.8** illustrates the wetlands within County Clare.

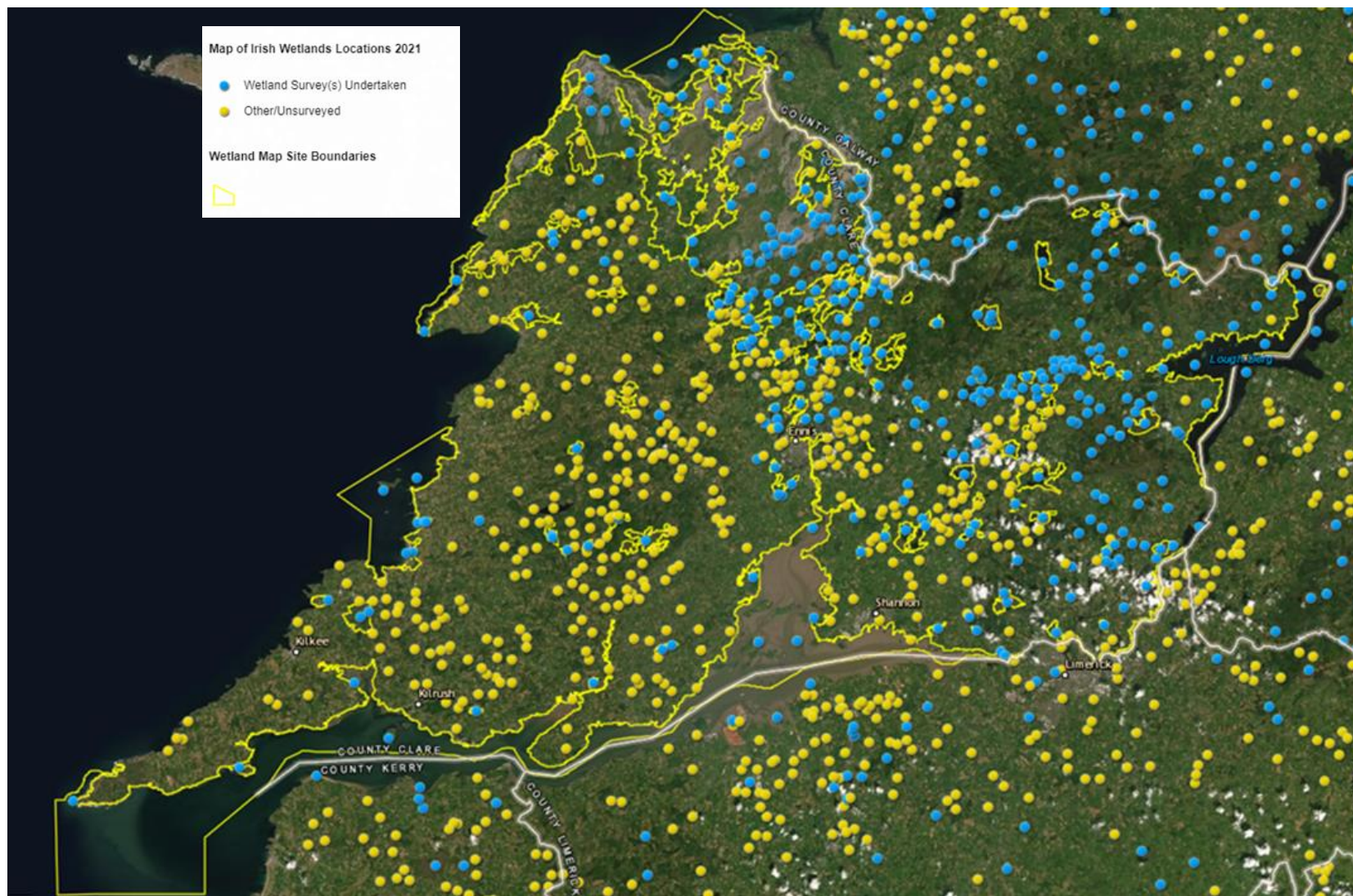
Turloughs are karst wetland ecosystems that are virtually unique to Ireland. They are usually flooded in winter and dry in summer. They contain many specialist invertebrates and provide important winter-feeding grounds for several species of wetland and wading birds. Hydrology is the key driver of turlough ecology with flood duration and groundwater contribution important factors, Grazing is also integral to the ecology and its important that appropriate grazing levels are maintained. Within Clare there a total of six SACs in which Turloughs are a Qualifying Interest and they are considered a priority habitat.

<sup>10</sup> The County Clare Wetlands Survey 2008

<sup>11</sup> <http://www.wetlandssurveyireland.com/news/revised-county-clare-wetlan.html>



Figure 5.6.7 Wetlands within County Clare.



### 5.6.14 The Shannon Estuary

The Shannon Estuary is one of the most important sites in Ireland for wintering and migrating waterbirds, supporting 10 bird species in numbers of international importance and a further 13 bird species occurring in numbers of national importance (Crowe, 2005). The entire Estuary is designated a Special Area of Conservation (SAC). The Estuary as far west as Doonaha is also designated as a Special Protection Area (SPA). In 2011, NPWS proposed an extension to the SPA bringing the extent of the designation from Foynes further west to the outer part of the estuary. The designation process will be completed once the S.I. has been signed by the Minister. This does not affect the protection afforded to the site from the date of the advertisement which was June 2011. The Shannon Estuary is also one of the most important habitats in Ireland, if not Europe, for bottlenose dolphins *Tursiops truncatus*. It is home to Ireland’s only known resident populations of bottlenose dolphins and is designated as a Special Area of Conservation (SAC) for this species. All cetaceans are listed under Annex IV (including those in Annex II) of Council Directive 92/43/EEC (the Habitats Directive). Accordingly, under Article 12 of that Directive, it is an offence to deliberately capture, disturb or kill a cetacean or take actions that result in deterioration or destruction of their breeding sites or resting places. The Shannon Estuary was assessed for Bottle nosed Dolphins in 2012 by the Shannon Dolphin and Wildlife Foundation<sup>12</sup>. The assessment mapped habitat suitability for BN Dolphins and concluded that the majority of the Shannon Estuary had intermediate habitat priority for Bottle Nosed dolphin exemplifying its importance for these cetaceans. The entire Shannon Estuary is also important for a number of migratory fish species some of which are protected under EU directives and have up and down stream migrations at various times throughout the year depending on the particular fish life stage, shown in **Table 5.6.7**. Fishing activity is particularly relevant in the context of dredging and development works and forms a crucial part of the dumping at sea permit application process through the EPA.

**Table 5.6.7 Generalised timing of life stages of relevant migratory fish species using the Shannon Estuary (Source; IFI)**

| Fish species    | EU Status         | Life Stages                               | Estuary transit   |
|-----------------|-------------------|---|---|
| Atlantic salmon | Habitats Annex II | Adult upstream migration                  | All times of year; “Spring” fish; grilse run in June-July     |
|                 |                   | Smolt downstream run                      | March - June  |
| Sea Lamprey     | Habitats Annex II | Upstream Adult spawning migration         | April - July  |
|                 |                   | Seaward migration of young adults         | Autumn - Winter   |
| River Lamprey   | Habitats Annex II | Upstream Adult spawning migration         | Autumn - Winter   |
|                 |                   | Seaward migration of young adults         | Autumn - Winter   |
| Smelt           | None              | Adult upstream spawning migration         | February – April  |
|                 |                   | Larval – young adult downstream migration | Post – spawning gradual downstream dispersal – April - August |

<sup>12</sup> <http://www.shannonestuariesifp.ie/wp-content/uploads/2016/03/Identification-and-rating-of-important-areas-for-Bottlenose-Dolphins.pdf>



|     |                    |                              |        |
|-----|--------------------|------------------------------|--------|
| Eel | EU Eel Action Plan | Upstream migration of eelers |        |
|     |                    | Downstream of adult fish     | Autumn |

### 5.6.15 Native Woodlands

There are 112 native woodlands within the County<sup>13</sup>. Ancient woodlands are considered to be those which are established and had continuous cover before afforestation and planting became common practice in Ireland. Ancient woodlands are vulnerable to impacts from clearing and sensitive due to their age and habitat types associated with them. A provisional inventory of ancient woodlands undertaken by the NPWS shows that there are 150 within the County with the area of native woodlands within County Clare estimated to be 9660 ha. Native woodland in Ireland suffers from what may be deemed internal and external threats. The main contemporary internal, or ecological, threats are from inappropriate grazing and from invasive alien species, although in the past underplanting with conifer species was a widespread practice. Grazing pressure in woodlands comes from domestic stock, chiefly cattle and sheep, feral populations of goats and wild deer. As deer lack any natural predators in Ireland, control of populations, typically through fencing or culling, is a major management issue. Heavy grazing pressure can reduce field layer diversity and inhibit regeneration of tree species through damage or removal of seedlings and saplings, eventually affecting stand structure and species composition. Mapped Native Woodlands in County Clare can be seen in **Figure 5.6.9**.

### 5.6.16 Trees

In line with **CDP Objective 15.19** which seeks to preserve and conserve individual or groups of trees identified in Volume 2 of the plan as “Trees for Preservation” and to carry out tree survey work during the lifetime of the Plan to identify future trees of importance in the county, Clare County Council through funding from the Heritage Council commissioned a survey to record existing trees in chosen settlements of County Clare during 2015. The survey categorised trees suitable for retention and assessed their quality and value. The following settlements were included in the survey; O’Briensbridge, Killaloe, Bridgetown, Ogonelloe, Scariff, Tuamgraney, Whitegate, Mountshannon, Tulla and Sixmilebridge. The results of the tree survey were analysed to provide further commentary on the significance of individual trees which have been assessed as Category A and B in accordance with British Standard BS 5837:2012 “Trees in relation to design, demolition and construction – Recommendations”. The results of this study have been incorporated into the SEA Assessment of Volume 3 and documented in Appendix B of Volume 10 SEA ER for each of the relevant settlements listed above

<sup>13</sup> <https://www.npws.ie/sites/default/files/general/nsnw-vol-1.pdf>

Figure 5.6.8 Native Woodlands



### 5.6.17 Habitats and Land use within County Clare

Clare's lengthy coastline means there is a wide extent of important marine and coastal habitat associated with the county. These include rocky shores, reefs, dune habitats, estuaries, sea cliffs and intertidal mudflats. Protected species that are common within these habitats include Bottle nosed dolphin, harbour porpoise and common seal. Many of Clare's marine and coastal habitats are part of European designations (SAC, SPA and MPA).

Wetlands are common throughout the county with many turloughs, fens and lakes found within the Burren. Peatlands are found throughout Clare with one raised bog designated as an SAC and 4 other raised bogs designated as pNHA. Grassland habitats within Clare include wet grasslands and dry calcareous grasslands. The Burren provides habitat for bat species through cave systems and is also home to incredibly diverse plant species. Woodland habitat within Clare is sparse with patches of ancient woodland. More common woodlands in Clare include oak-ash-hazel woodlands and some wet alder woodlands. Common species within these habitats include red squirrel, pine marten, and hedgehog with multiple bat species using these woodlands to forage and commute. Hedgerow habitat throughout the county also provides habitat for nesting bird species. Clare has a large network of rivers and due to the plentiful limestone within the county, underground aquifers. Petrifying springs are an example of habitat found within Clare which rely on lime rich water sources where tufa is actively deposited.

Clare County Council undertook habitat mapping of East Clare (2008), South East Clare (2008), Mid and North Clare in (2009), Mid Clare (2010) and Mid East Clare (2011), See **Figure 5.6.10** for current habitat mapping of County Clare from these studies.

Copernicus is the European Union's Earth observation programme that can provide data to map areas with the EU. The European Commission manages the programme. It is implemented in partnership with the Member States, the European Space Agency (ESA), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the European Centre for Medium-Range Weather Forecasts (ECMWF), EU Agencies and Mercator Océan.

A Coastal Zones dataset was made available in 2018 detailing the Coastal zones Land Use of European Union States. See **Figure 5.6.11** for Coastal Land Use in County Clare



Figure 5.6.9 Habitat Mapping of County Clare

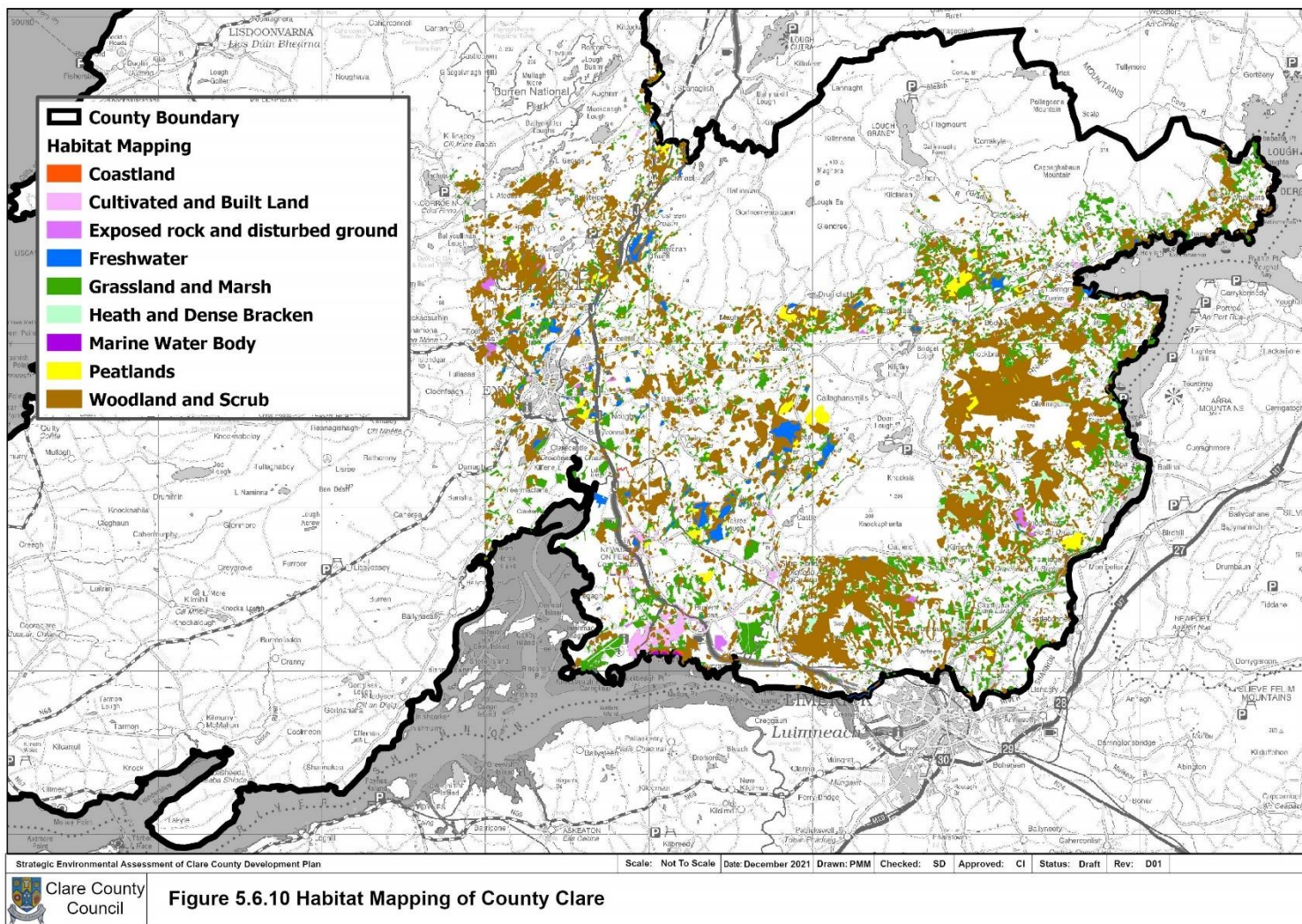
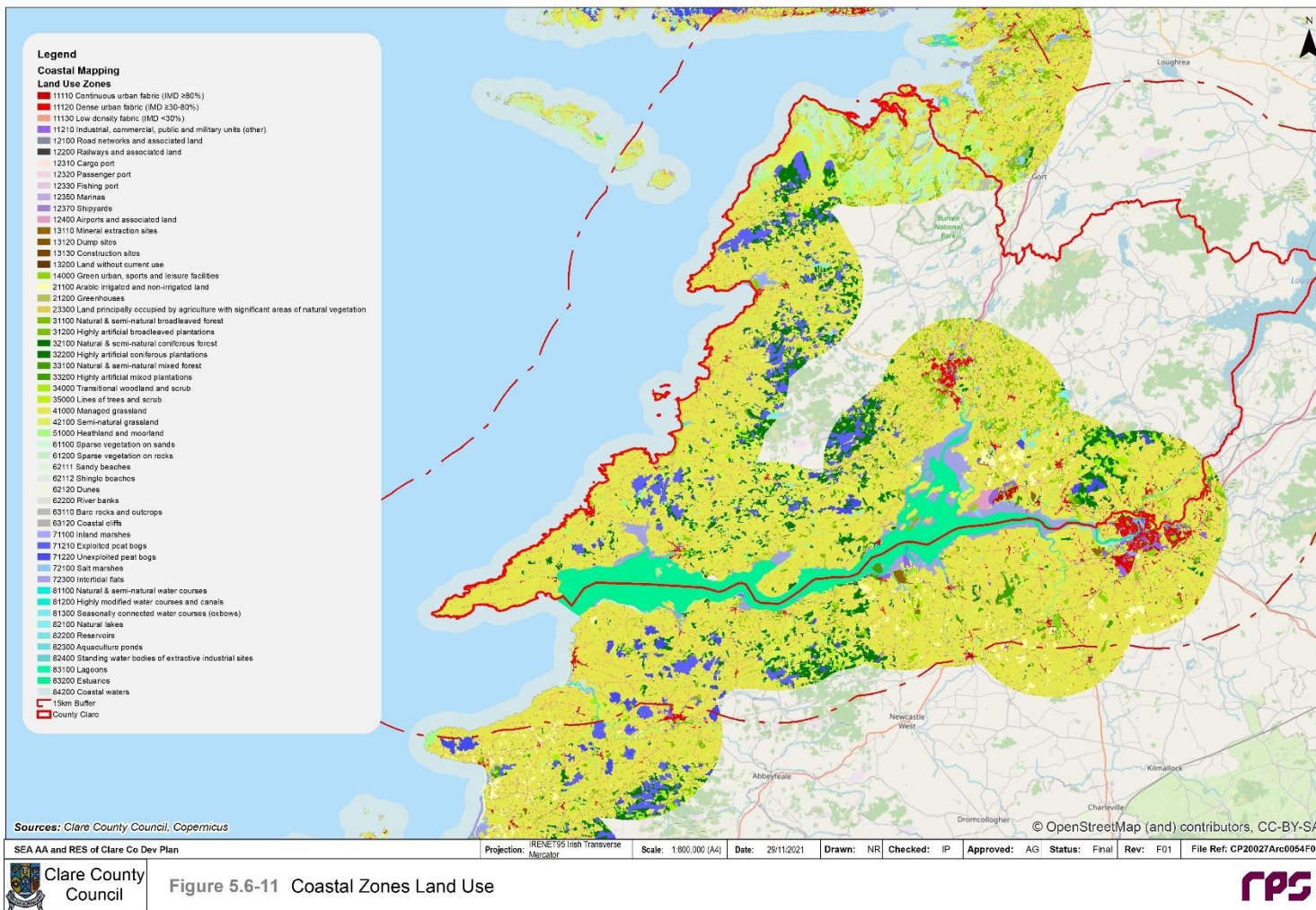




Figure 5.6.10 Coastal Zone Land Use



### 5.6.18 Coastal and Marine Protected Sites

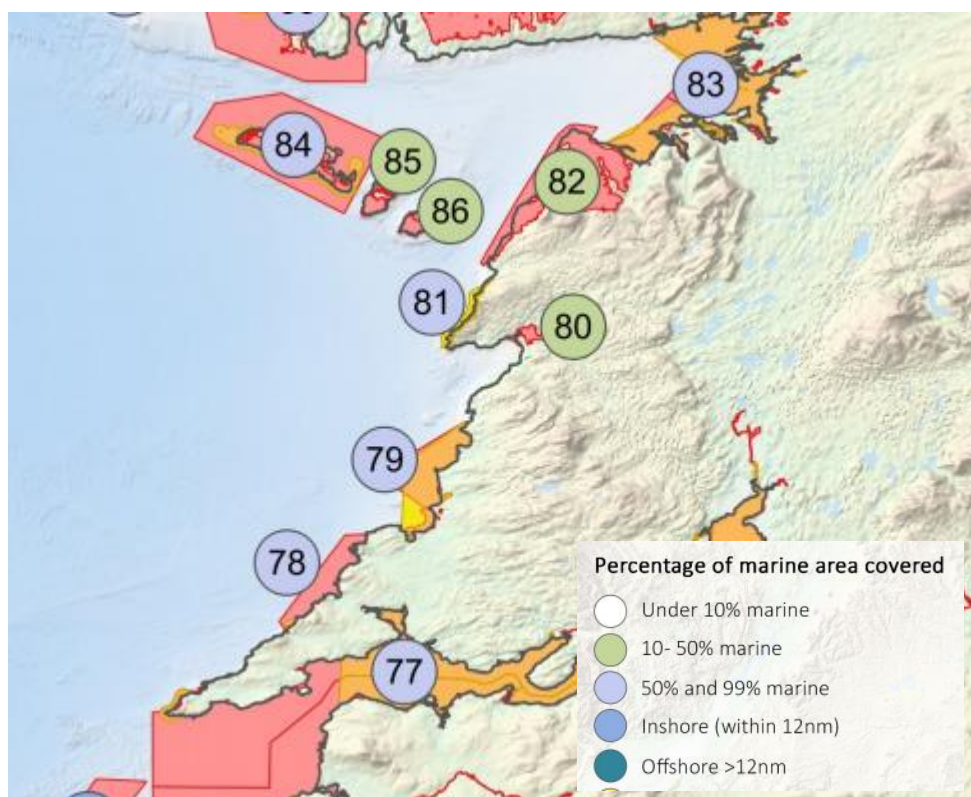
The NPWS has also conducted a number of coastal inventories documenting different coastal and shoreline features. There are 1,149 salt marshes around the Clare coastline. As part of the coastline monitoring project inventory, there are 228 other coastline habitat (including those on Annex 1) are recorded for County Clare. Additionally, there are 8 coastal lagoons in County Clare.

Ireland, along with many other countries, has committed to designate 10% of its seas as MPAs by 2020 and 30% by 2030<sup>14</sup>. Marine Protected Areas can include SAC's and SPA's which are partially or wholly marine. An MPA can contain several European sites dependent on the size allocated to the MPA i.e River Shannon MPA contains The Lower River Shannon SAC, River Shannon and River Fergus Estuaries SPA and Loop Head SPA.

MPA's associated with County Clare are shown below in **Figure 5.6.12** and include;

- The River Shannon MPA Complex (MPA Code. 77),
- Kilkee Reefs with Illaunonearaun (MPA Code: 78),
- Carrowmore Point to Spanish Point (MPA Code: 79),
- Inagh River Estuary (MPA Code: 80),
- Cliffs of Moher (MPA Code: 81),
- Black Head-Poulsallagh Complex (MPA Code: 82), and
- Galway Bay (MPA Code: 83).

**Figure 5.6.11 Marine Protected Areas**



<sup>14</sup> <https://coastwatch.org/europe/mpa-project/>



### 5.6.19 Protected Habitats and species outside of Designated Sites

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

The freshwater pearl mussel is an extremely sensitive species which is currently on in IUCN Red List of Threatened Species and is rated as ‘critically endangered’ throughout the island of Ireland. Populations of the freshwater pearl mussel can be damaged in a number of ways including the removal of river boulders and gravels, or through works such as building bridges, weirs or bank reinforcements within the mussel habitats.

Within County Clare there is one freshwater pearl mussel SAC population for which the river catchment is protected. This is the Cloon River system which is located on the north shore of the Shannon Estuary feeding into the estuary at its downstream end as outlined in **Tables 5.6.1 & 5.6.7** and as shown in **Figure 5.6.13**.

The freshwater pearl mussel is acknowledged to be one of the most demanding species of high-water quality and high riverbed quality in the world. Due to the extreme sensitivity of the FPM, all land use activities in the catchment must be in keeping with the needs of a thriving mussel population, as just one damaging activity can destroy the good work in the rest of the catchment.

Whilst Ireland and Northern Ireland support a significant proportion of the FPM populations remaining in Europe, these populations have been in dramatic decline in recent years, with an estimated loss of over a million mussels between 2007 and 2013 (DAHG, 2013). The species is on the IUCN Red List of Threatened Species and throughout the island of Ireland it is rated as critically endangered.

Populations of the freshwater pearl mussel can be damaged in a number of ways. Direct damage to the mussel and its habitat can occur through removal of river boulders and gravels, or through building bridges, weirs or bank reinforcements, excavation of materials which are extremely sensitive to the freshwater pearl mussel and its habitat such as peat.

Actions in areas outside the immediate habitat of the mussel may also be damaging. This damage may result from a range of activities but occurs in four main ways.

- *Changes in River Flow:* Activities such as land drainage, major land use changes, water abstraction, physical changes to the river and its tributaries by dredging or straightening can *all* affect the quantity of water in the river, and the speed and direction of river flow.
- *Addition of Chemicals and Nutrients:* A range of substances cause harm to mussels when they enter the river. Industrial pollutants, nutrients (phosphorus and nitrogen which may come from forestry, agriculture, agri-based industries, waste management facilities and sewage inputs), and pesticides (particularly sheep dip) are of serious concern in FPM catchments.
- *Inputs of Sediment:* Land drainage, construction works, tillage and animal poaching are among the many activities that can result in the movement of fine sediment from the land to water. Over time this eroded sediment makes its way through ditches and streams into the river and onto pearl mussel populations.

- *Biotic factors:* Where any of the issues above negatively affect the salmonid host of the FPM, damage to mussel populations will also result due to failure of FPM larvae to find host fish. Any reduction in numbers and distribution extent (range) of FPM results in damage to the resilience of FPM through genetic loss.

There has been a considerable decline in species distribution and numbers throughout the island of Ireland with all designated populations currently at unfavourable conservation status.

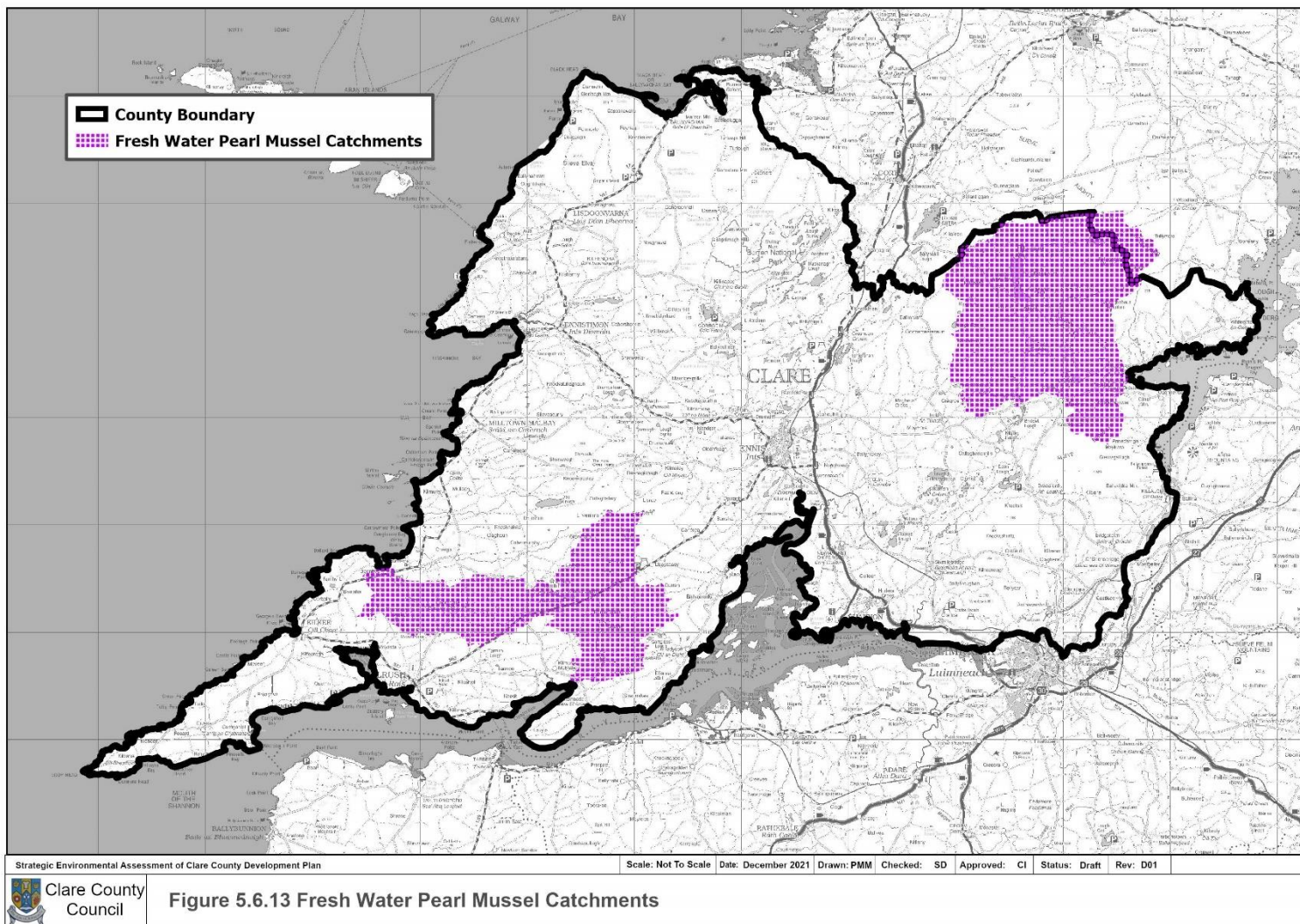
In Ireland, regulations have been introduced (The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009, S.I. No. 296 of 2009) which set objectives for FPM catchments. A requirement of these regulations is the production of sub-basin management plans for each of the 27 designated populations of FPM. Draft sub-basin plans have been prepared and are available for download at [www.wfdireland.ie](http://www.wfdireland.ie). The FPM sub-basin plans identify critical local pressures and impacts on the freshwater pearl mussel and provide possible measures for restoration to favourable conservation status. The Cloon is one of these 27 populations which is currently at unfavourable conservation status.

In addition, Clare contains three other catchments which are identified as freshwater pearl mussel Sensitive Areas by National Parks and Wildlife Service this are as follows;

- Doonbeg
- Shannon – Graney/Scariff
- Shannon – Woodford

These margaritifera sensitive areas contain catchments of other extant populations or catchments with previous records. The potential effects of any plans, developments, or activities on the populations, including the potential to cause ‘environmental damage’ as per the Environmental Liability Directive and Regulations, must be determined through SEA, EIA or other ecological assessment. The NPWS holds some detailed information on the distribution and abundance of freshwater pearl mussels in a small number of these catchments. The location and extent of these sensitive areas is shown in **Figure 5.6.13**.

Figure 5.6.12 Fresh Water Pearl Mussel Catchments



### 5.6.20 Rare and Protected Species

The NPWS and NBDC were consulted for Rare and Protected Species within County Clare. 75% of the plants found in Ireland are represented in the flora of the Burren. Some of the rarer plants are protected under European Legislation, more under the 1999 Flora Protection Order. Mapped Bryophytes listed on the Flora Protection Order within Clare include the Endangered *Didymodon acutus*<sup>15</sup>, and the Least Concern *Petalophyllum ralfsii*<sup>16</sup> both found in Fanore, the Endangered *Leptodon smithii* found at a site in Cathair Chomain<sup>17</sup> and the Critically endangered *Encalypta rhapsocarpa* found in Scarriff<sup>18</sup>. Some of the rarer plants and animals are kept on internal databases within the NPWS and NBDC databases i.e. Badger sett locations, Lesser horseshoe bat roosts and rare plant locations. This is to protect their location and avoid disturbance from humans.

### 5.6.21 Green Infrastructure

While green infrastructure promotes the amenity and quality of life value of nature within urban settings and is not solely for the benefit of biodiversity, it is noted that it can contribute significantly to the retention and enhancement of ecological connectivity.

Green Infrastructure is defined as ‘an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations’ (Comhar, 2010). Such spaces include woodlands, coastlines, flood plains, hedgerows, fields, gardens, turloughs, lakes, city parks and street trees, and the benefits to humans they provide include water purification, flood control, carbon capture, food production and recreation. Incorporation of green infrastructure in spatial planning and sectoral decision making helps to prevent biodiversity loss and fragmentation of ecosystems, thus restoring, maintaining and enhancing ecosystems and their services. It will improve resilience and adaptation to climate change and enable greater connectivity between ecosystems in protected areas and the wider countryside. The European Commission produced a strategy on green infrastructure in 2012. Due to its obligations under the European Landscape Convention, Ireland has prepared a National Landscape Strategy for Ireland (2015-2025) which will also have significant implications for biodiversity.

There are many inter-relationships between green-infrastructure and other environmental parameters, for instance, its integration with human health through sport and recreation opportunities as well as increasing accessibility to amenity and recreation areas and promoting social inclusion; natural heritage and cultural heritage (e.g., West Clare Railway). Clare is rich in biodiversity and developing “green infrastructure” should be considered integral to proposed developments arising from the County Development Plan.

### 5.6.21 Riparian Zones

The riparian zone is an integral part of any watercourse system serving ecological as well as practical functions, for example, the vegetation provides bank stability during flood conditions and filters pollutants out of surface water before it reaches a river or lake. A riparian buffer zone is a strip of vegetated land running parallel to the river which acts as a buffer against negative human

<sup>15</sup> [https://www.npws.ie/sites/default/files/fpo/taxon/Didymodon\\_acutus\\_03\\_Fanore.pdf](https://www.npws.ie/sites/default/files/fpo/taxon/Didymodon_acutus_03_Fanore.pdf)

<sup>16</sup> [https://www.npws.ie/sites/default/files/fpo/taxon/Petalophyllum\\_ralfsii\\_06\\_Fanore.pdf](https://www.npws.ie/sites/default/files/fpo/taxon/Petalophyllum_ralfsii_06_Fanore.pdf)

<sup>17</sup> [https://www.npws.ie/sites/default/files/fpo/taxon/Leptodon\\_smithii\\_03\\_Cathair\\_Chomain.pdf](https://www.npws.ie/sites/default/files/fpo/taxon/Leptodon_smithii_03_Cathair_Chomain.pdf)

<sup>18</sup> [https://www.npws.ie/sites/default/files/fpo/taxon/Encalypta\\_rhapsocarpa\\_01\\_Scarriff.pdf](https://www.npws.ie/sites/default/files/fpo/taxon/Encalypta_rhapsocarpa_01_Scarriff.pdf)

development activity, which must be sufficiently wide to protect the river. It must be large enough to protect the ecological integrity of the river and the riparian zone but can incorporate amenity uses provided it is done sensitively with minimal impact on the water and riparian environment.

The county has a network of rivers and streams as shown on **Figure 5.10.2** together with their Water Framework Directive status, many of which are designated SAC and/or SPA or flow into such designated rivers and lakes and are an intrinsic part of green infrastructure.

### 5.6.22 Protected Species within Clare

Within the Plan area Annex II species present include Atlantic Salmon, Otter, Sea, River and Brook Lamprey, freshwater pearl mussel and nine out of ten species of bats in Ireland, including the Annex IV species the Lesser Horseshoe Bat and the Annex II Brown Long-Eared Bat.

**Table 5.6.8** sets out the characteristics of the protected species within Clare, the threats relevant to them and their most recent Conservation status as per the Status of EU Protected Habitats and Species in Ireland 2019.

**Table 5.6.8 Protected Species within the County**

| Species                     |  | Characteristics and Habitat <sup>19</sup>   | Threats and Conservation Status <sup>19</sup>    |
|-----------------------------|--|---|--|
| <b>Brown long-eared bat</b> |  | This is quite a common bat Annex IV species (Code 1326). It can be seen around old churches. Common habitats are woodland for feeding and attics in buildings for roosting, in tree holes, farm buildings and bat boxes. They feed on a wide range of insects and forage in broad-leaved woodlands, along treelines, in scrub, conifer plantations, mature gardens, parklands and orchards. | Conservation status is favourable                |
| <b>Common Pipistrelle</b>   |  | This bat is an Annex IV species (Code 1309). It is very general in its habitat preference, foraging in woodland, riparian habitats and parkland, along linear features in farmland, and in towns and cities   | Conservation status is Favourable and increasing |
| <b>Daubenton's Bat</b>      |  | This bat is an Annex IV species (Code 1314). It forages over water and is particularly associated with slow-moving rivers and with lakes. The majority of roosts known for this species are in masonry  | Conservation status is Favourable and increasing |

<sup>19</sup> Sourced from the Status of EU Protected Habitats and Species in Ireland 2019

[https://www.npws.ie/sites/default/files/publications/pdf/NPWS\\_2019\\_Vol1\\_Summary\\_Article17.pdf](https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf)



|                             |  |   |  |
|-----------------------------|--|---|--|
|                             |  | bridges and old stone buildings such as castles and mills. Records are numerous around Ennis and its environs   |  |
| <b>Leisler's Bat</b>        |  | <p>This bat is an Annex IV species (Code 1331). Of all the Irish bat species Leisler's has the most specific maternity roosting habitat requirements. They select sites with adjacent woodland and freshwater and avoid areas of arable land and coniferous woodland. Leisler's bat is widespread across Ireland, but monitoring indicates it is more abundant in the east and south of the country.</p>  | <p>Two threats/pressures have been identified and need to be investigated further: wind energy, and the impact on roosts associated with deliberate/accidental exclusion from houses. Conservation status is Favourable and increasing.</p>  |
| <b>Lesser Horseshoe Bat</b> |  | <p>This bat is an Annex II and IV species (Code 1303) and is common in Ennis and across the county due to the presence of caves and large houses with suitable attics, have internationally important populations as declining in the rest of Europe. They roost and hibernate in caves and under old bridges, breed in buildings and feed along hedgerows. Forages in deciduous woodland and riparian vegetation. The species is known to rely on linear landscape features to commute from roosts to feeding sites.</p> | <p>Very sensitive to disturbance. Loss of suitable summer and winter roosting sites due to the deterioration/renovation of derelict buildings, loss of commuting routes linking roosts to foraging sites and loss of suitable foraging sites are the major threats to this species. The overall conservation status of this species is assessed as inadequate and declining.</p> |
| <b>Natterer's Bat</b>       |  | <p>This bat is an Annex IV species (Code 1322). Summer roosts are normally in old stone buildings or masonry bridges. Usually only small numbers of bats are present, often hidden in narrow spaces where they are difficult to locate. Woodland habitats, river corridors and pastures appear to be favoured for foraging. Very few records exist within Clare.</p>  | <p>Building renovation and loss of foraging habitat are potential threats for this species but are not considered to be significant.</p> <p>The Overall Status has been assessed as Favourable</p>   |
| <b>Soprano Pipistrelle</b>  |  | <p>This bat is an Annex IV species (Code 5009). summer roosts are usually in buildings, including modern suburban</p>   | <p>There is no indication of any significant pressures impacting</p>   |



|                        |  |  |   |
|------------------------|--|--|---|
|                        |  | houses, old, abandoned mansions, churches, amenity buildings and farm sheds. Bat boxes are also used. Soprano pipistrelles normally roost in very confined spaces, such as behind window sashes, under tiles and weatherboards, behind fascia and soffits, and within the cavities of flat roofs. Records are found throughout Clare with clusters found in Ennis, Shannon and Scarriff. | on the species, and numbers appear to be increasing.<br><br>Conservation Status is assessed as Favourable and improving   |
| <b>Whiskered Bat</b>   |  | This bat is an Annex IV species (Code 1330). Summer roosts are normally in old stone buildings. Typically, only small numbers of bats are present, often between rafters and felt and in other narrow spaces where they are difficult to locate. Very limited records exist within County Clare, but the Bat is present  | Building renovation and loss of foraging habitat are potential threats for this species but are not considered to be significant. Conservation Status is assessed as Favourable.  |
| <b>Atlantic Salmon</b> |  | The Atlantic salmon (Annex II and IV) breeds in freshwater but spends much of its life at sea. The salmon population in Ireland has declined by 75% in recent decades and only 43 out of 148 Irish rivers in which they still occur have healthy populations.  | There are numerous factors which impact negatively on salmon, the most important of which are reduced marine survival (probably as a result of climate change), poor river water quality resulting from factors such as inadequate sewage treatment, agricultural enrichment, acidification, erosion and siltation), forestry related pressures and overfishing. Current estimate is less than 10% of wild smolts that go to sea from Irish rivers are surviving. Also concerns relating to mortality at sea from such things as diseases, parasites and marine pollution. Overall conservation status is inadequate. |
| <b>Otter</b>           |  | The otter (Annex II and IV) is widespread in Irish freshwater and coastal habitats. Main prey includes sticklebacks, salmonids, frogs, crayfish and eels.  | Some localised reduction in otter habitat quality due mainly to water pollution and clearance of riparian vegetation this has been balanced by reduced occurrence of severe water pollution episodes and  |

|   |  |  |  |
|---|--|--|--|
|   |  |  | reduced river corridor disturbance. Conservation status is favourable  |
| <b>Sea Lamprey</b>                      |  | Sea Lamprey (Annex II) spend their adult life in marine and estuarine waters and migrate up rivers to spawn in areas of clean gravels, after which they die. The young larvae settle in sediment in still water where they burrow and act as filter feeders until transforming into adult fish. They can grow up to 1m in length and widely distributed around the coast.  | On some rivers weirs block upstream migration which limits the species to the lower stretches and restricting access to spawning beds. Channel maintenance is a concern, removing silt deposits and gravel shoals used by lampreys. Conservation status is assessed as bad.                                      |
| <b>River and Brook Lamprey</b>          |  | The river lamprey (Annex II, IV) grows to 30cm and has similar life to the sea lamprey.<br><br>The brook lamprey (Annex II) is the smallest of the lampreys native to Ireland and the only one which is non-parasitic and spends its life in fresh water. Both are very similar genetically and cannot be distinguished visually. Have been historically recorded along the River Shannon and its tributaries  | The inability to distinguish between river lamprey and brook lamprey larvae, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken. The Overall Status for river lamprey is therefore assessed as Unknown |
| <b>Freshwater Pearl Mussel</b>          |  | The sediment and nutrients that enter mussel rivers come from a wide variety of sources (e.g. urban wastewater, development activities, farming and forestry), often well upstream of the location of the mussels. The species can also suffer direct impacts from in-stream works such as channelization, bridge-construction and recreational fishery structures. Ensuring the long-term future of the freshwater pearl mussel requires significant, integrated catchment management to prevent direct impacts and to reduce losses of sediment and nutrients from all indirect sources. | The Overall Status is assessed as Bad and declining.   |
| <b>Freshwater White-Clawed Crayfish</b> |  | Records for White Clawed Crayfish in Clare are sparse likely due to the geology of   | White-clawed crayfish faces threats from non-indigenous crayfish species and Crayfish  |

|  |  |  |   |
|--|--|--|---|
|  |  | County Clare (Acidic limestone is not preferred by crayfish). Records have been found within the eastern side of Clare with records in the Ratty River, Hollymount River and the Blackwater (Clare) river. | <p>Plague which is a water-borne disease specific to freshwater crayfish caused by the oomycete <i>Aphanomyces astaci</i>.</p> <p>Non-indigenous crayfish species impact the White-clawed Crayfish through direct predation and competition but also act as carriers of Crayfish Plague.</p> <p>The Conservation Status is Bad with a deteriorating trend.</p> <p>No plague was recorded in any Clare catchments during the most recent White Clawed Crayfish catchment survey in 2019<sup>20</sup></p> |
|--|--|--|---|

The Lesser Horseshoe Bat (*Rhinolophus hipposideros*) is Ireland's only Q.I bat species and is localized to the west of Ireland with a huge abundance of the species found in Clare. It is a Q.I of sixteen SAC's within Clare. The NPWS holds a dataset of Lesser Horseshoe bats from known roost locations in 1km grid squares. These records were collected by NPWS rangers and staff, Vincent Wildlife Trust, independent ecologists and bat workers. Data is presented in 1km grid squares to preserve sensitive locations information<sup>21</sup>. See a map of this data in **Figure 5.6.14**.

Bat Conservation Ireland holds bat record maps for all counties within the Republic of Ireland. These include all bat species mentioned in **Table 5.6.8** except the Lesser Horseshoe. The location of this species is protected and considered sensitive information. The records for all other species found within Clare are shown in **Figure 5.6.15** to **Figure 5.6.21**. Specific Lesser Horseshoe Bat monitoring is carried out by NPWS and the Vincent Wildlife Trust. Count data is collected and analysed by Bat Conservation Ireland. The Vincent Wildlife Trust manages two Lesser Horseshoe Bat reserves in Co. Clare; Lisduff Barn and Rylane Cottage a third reserve, Fiddaun Cottage straddles the Co. Clare boundary.

Otter (*Lutra lutra*), is a common protected species found throughout Clare county. Otters are found along rivers and streams which are plentiful in Clare and are a Q.I of five European sites within Clare.

The River Fergus and Clooneen (Clare) river are both salmonid protected waters under Salmonid Regulations (S.I. 293 / 1988). They are important waters for protected salmonids species. Sections of the River Fergus are part of the Lower River Shannon SAC and as such are designated for Atlantic salmon (*Salmo salar*), River Lamprey (*Lampetra fluviatilis*), Brook Lamprey (*Lampetra planeri*) and Sea Lamprey (*Petromyzon marinus*). Common Bottlenose Dolphin (*Tursiops truncatus*) is an Annex found within the Lower River Shannon SAC.

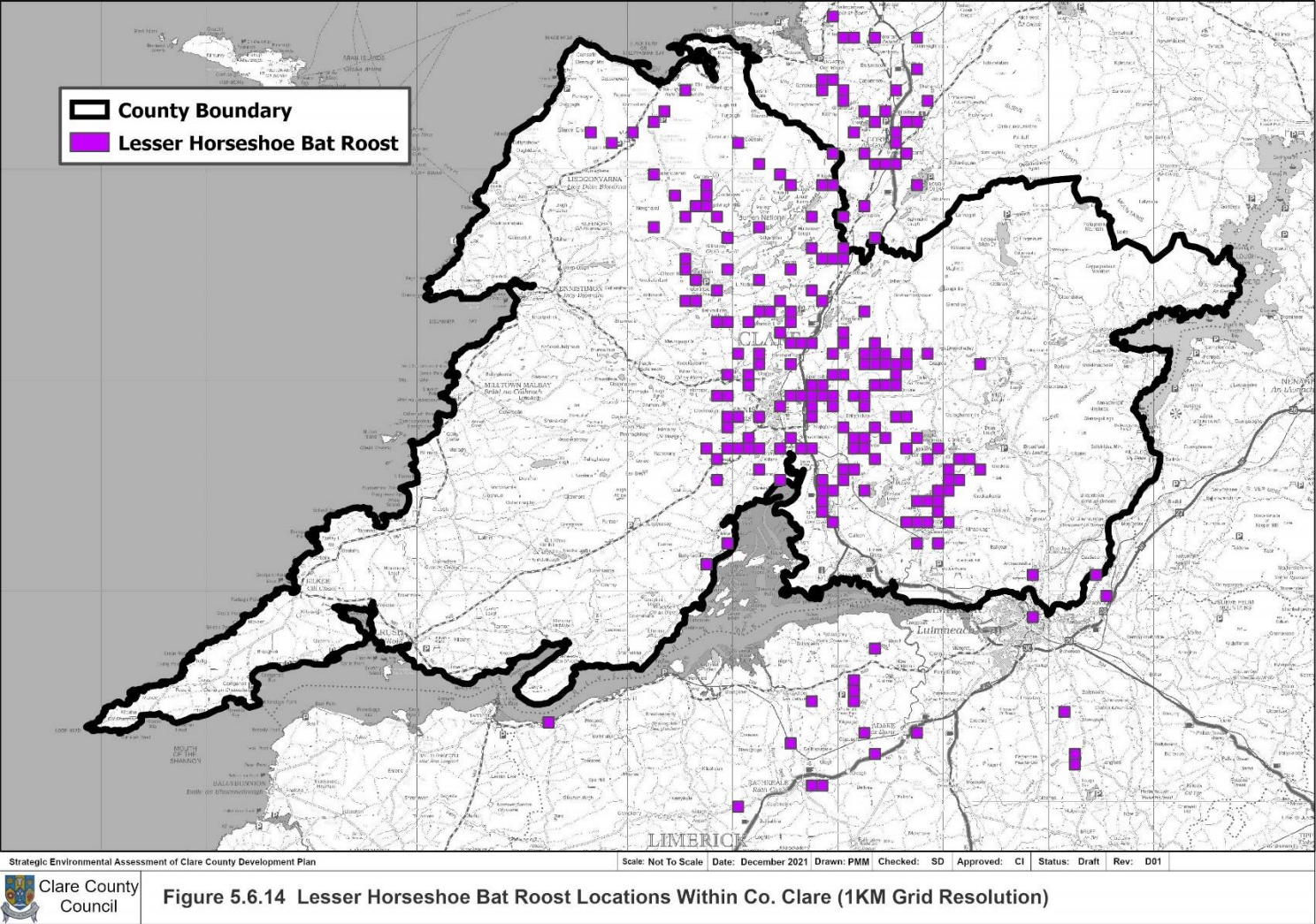
<sup>20</sup> <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Crayfish-plague-map-20190820.pdf>

<sup>21</sup> <https://data.gov.ie/dataset/lesser-horseshoe-bat-database-records>

The River Shannon And River Fergus Estuaries SPA holds over 50,000 wintering waterbirds and is designated for twenty-one SCI bird species. It is of National and European importance as is evident by its designation as an SPA. The Cloon river is a designated Freshwater Pearl Mussel catchment with an active population of FWPM and is part of the Lower River Shannon SAC.

Nationally designated species including Badger (*Meles meles*), Common Frog (*Rana temporaria*), Irish Hare (*Lepus timidus hibernicus*) and Pine Marten (*Martes martes*) are common throughout the county.

Figure 5.6.13 Lesser Horseshoe Bat Roost Locations within County Clare (1km Grid Resolution)



**Figure 5.6.14 Brown long-eared bat records within County Clare**



**Figure 5.6.15 Common Pipistrelle bat records within County Clare**

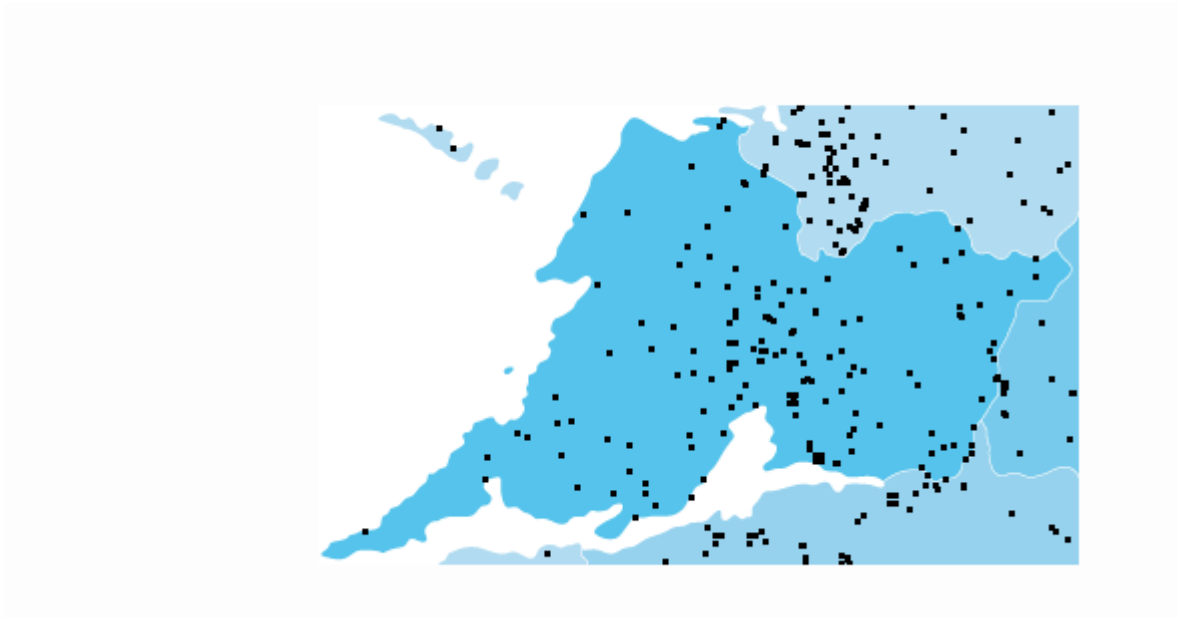




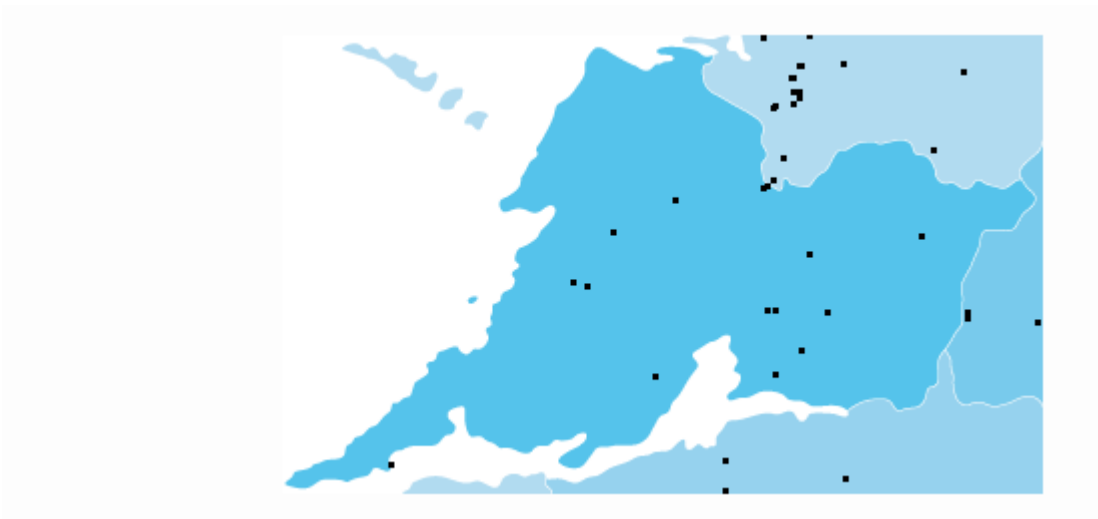
**Figure 5.6.16 Daubenton’s Bat records within County Clare**



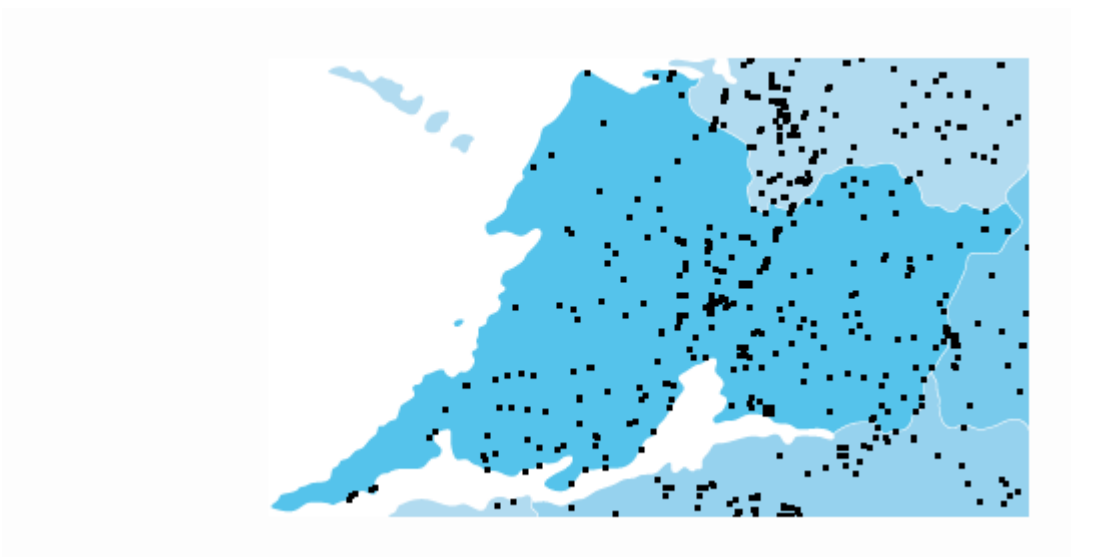
**Figure 5.6.17 Leisler's Bat records within County Clare**



**Figure 5.6.18 Natterer’s Bat records within County Clare**



**Figure 5.6.19 Soprano Pipistrelle records within County Clare**



**Figure 5.6.20 Whiskered Bat records within County Clare**

### 5.6.23 Invasive Species

Invasive species are species that have been introduced, generally by human intervention, outside their natural range and whose establishment and spread can threaten native ecosystem structure, function, and delivery of services<sup>22</sup>. After habitat loss, invasive species are the second biggest threat to biodiversity. There are ecological and socio-economic impacts as a result of invasive species, the extent of which are likely to increase in the Plan area without an effective management strategy including raising awareness which will inform on identification and how to reduce the risk of introducing and spreading invasive species. The EU adopted “**Regulations on the prevention and management of the introduction and spread of invasive non-native species**” (2013/0307(COD)) came into force on the 1<sup>st</sup> of January 2015. This regulation seeks to address the problem of invasive species in a comprehensive manner so as to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human health or economic impacts that these species can have.

The Regulation foresees three types of interventions: prevention, early detection and rapid eradication, and management.

The 2009 Clare Invasive Species Project provides a baseline of the known distribution of invasive species. In addition, **Figure 5.6.22** provides an indication of the taxon with the data collated from a variety of sources including the National Invasive Species Database, Clare Biological Records Centre dataset, the Flora of County Clare amongst others. This map for the first time shows distinct clusters of invasive species which gives a clear indication of how the species are being transferred or spread throughout the county at an alarming rate.

The N68 contains a very distinctive cluster for Japanese Knotweed, *Fallopia japonica* moving from east to west along this route. There are two further clusters north of Tulla and west of Scarriff. Given the principal means of spread is entirely through the deliberate or accidental movement of rhizome fragments or cut stems it is highly likely that the spread along this route is through the cutting of

<sup>22</sup> National Biodiversity Data Centre.

hedgerows or the movement of excavated material either soil or vegetation along the route. Japanese knotweed has an extraordinary ability to spread vegetatively from crown, stem, and rhizome (underground root) if disturbed. Even tiny amounts of cut stem, crown or rhizome are capable of producing a new plant. Controlling spread is therefore dependent on preventing the spread of the stem, crown or rhizome. Japanese knotweed can have huge consequences given its key impacts include;

- Excludes native species.
- Dies back in winter leaving riverbanks vulnerable to erosion.
- Subsequent potential sedimentation impact on fish spawning areas.
- In cases it can damage building foundations.
- Collects litter in urban areas; and
- Can damage hard surfaces by growing through them

Himalayan knotweed (*Persicaria wallichii*) has been found in county Clare with clusters found along the R474 near Miltown Malbay and in Ennis town. Himalayan knotweed like other knotweed species was introduced as an ornamental plant and has become persistent in abandoned gardens and on roadsides or where there is garden waste.

The highly invasive Zebra mussel (*Dreissena polymorpha*) records are present within Lough Derg and a large cluster of records within the Ratty river and surrounding lakes in east Clare. Zebra mussels can be found in slow moving freshwater rivers, lakes canals and reservoirs. Zebra mussels are spread by a lack of biosecurity measures i.e. cleaning boats after use in waterways with biological disinfectants to prevent spread. There has been no County wide mapping update to Invasive species in County Clare since the 2009 Clare County Invasive Survey.

In County Clare 24 invasive alien species have been identified with a number of them established at high densities in specific environments. While not all alien species have the potential to become invasive or cause problems, there are many that can significantly alter habitats and affect the associated biota, or result in a reduction in the quality of economic services. Mapping of Invasive species within Clare County was undertaken by EirEco Environmental Consultants in 2009. See **Figure 5.6.22** for mapped invasive species within County Clare from this study.

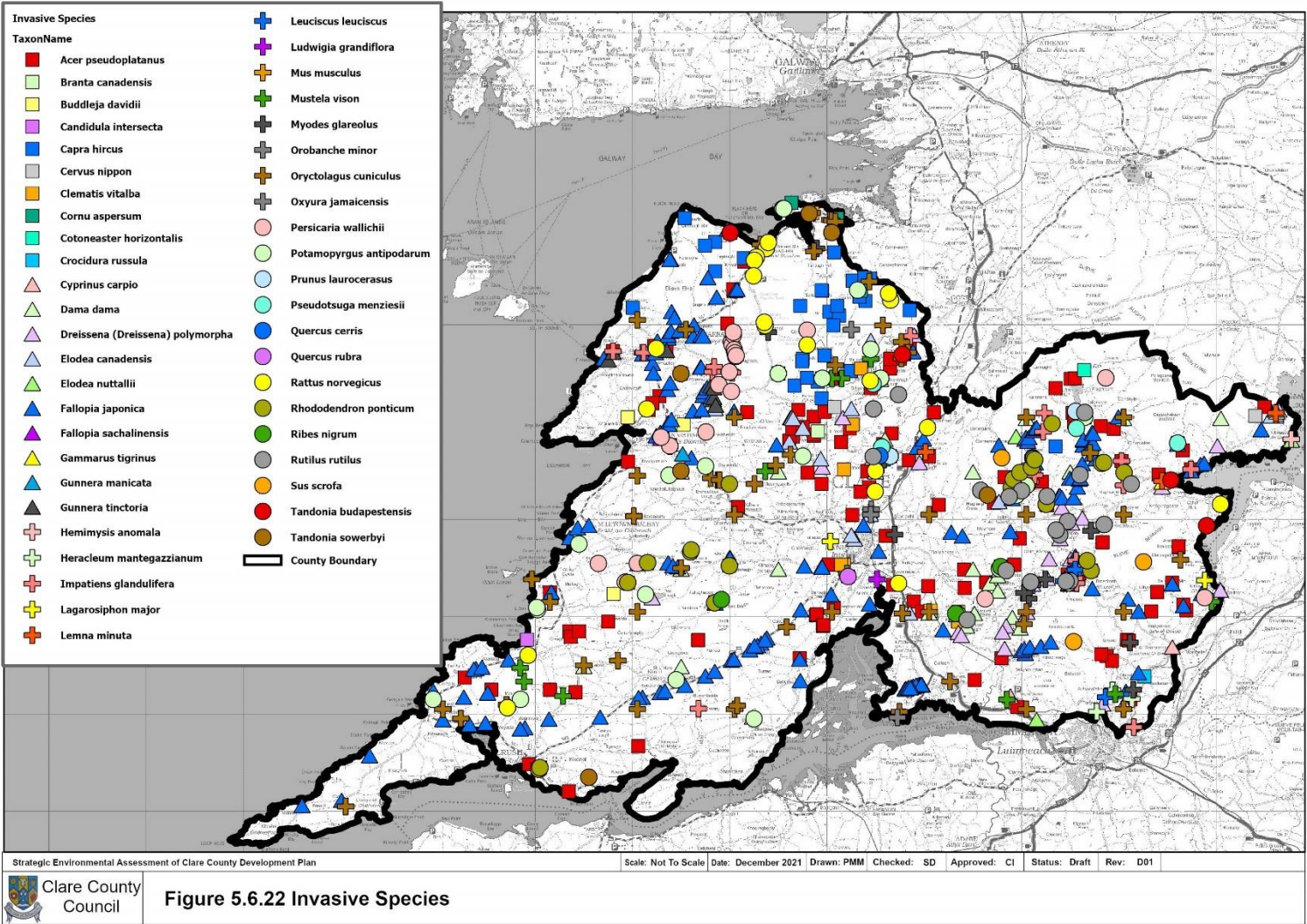
### **Tackling Invasive Species**

Clare County Council are tackling invasive species throughout the county, with action been taken by all the Municipal District Offices. Ennis, Killaloe, Shannon and West Clare MD each have a programme of invasive species eradication underway in September and October with funding from the National Parks and Wildlife Service (Department of Housing, Local Government & Heritage), National Biodiversity Action Plan Funding 2021. Follow up work will involve further mapping of the problem species, Knotweed and Giant Hogweed and proposed long term management and control measures.

- Alien Invasive Species training and AIS plans for communities to identify and treat AIS, work with Clare Local Development Company
- Alien Invasive Species eradication equipment purchase for communities to enable them to eradicate AIS in their local area, work with Clare Local Development Company

- Alien Invasive Species eradication of Knotweed with Municipal District Offices in Ennis, Killaloe, and West Clare MD.
- Alien Invasive Species eradication of Giant Hogweed in Municipal District Office in Shannon MD

Figure 5.6.21 Invasive Species in Clare





### 5.6.24 Biodiversity Issues and Threats in the Plan area

The key issues associated with the development of the Clare CDP 2023-2029 and biodiversity relate to:

- Effects on protected areas: European (e.g., SACs, SPAs, Ramsar sites) and National (e.g. (p)NHAs);
- Effects on protected species e.g., from noise, barrier to movement/ interrupted flight patterns, collisions with infrastructure;
- Potential for permanent and/or temporary habitat loss and fragmentation
- Loss or disturbance of habitats and species from land use change and changes to land management;
- Changes to soil nutrient status;
- Habitat deterioration;
- Vegetation or community changes (e.g., from land use change as well as direct
- changes to the environment, e.g., through emissions, fertilisation, lighting etc.)
- Potential loss of key “stepping-stones” between European sites which are not afforded the same protection as SACs ad SPAs or as pNHAs or NHAs;
- Disturbance to wildlife, and particularly birds, occur as a result of inappropriately sited development and increased recreational pressure;
- Disturbance or damage to breeding, roosting and feeding areas;
- Potential introduction/ spread of alien species and invasive species;
- Potential for interaction with Habitats Directive, i.e. Articles 6, 10, 12;
- Potential Impacts on water quality (including eutrophication, sedimentation) and associated species and habitats associated with construction stage of any new developments or infrastructure;
- Potential impacts to hydrology and hydromorphology of waterbodies and associated species and habitats with construction and operational stage of instream/bankside developments or infrastructure;
- Potential impacts to groundwater and associated groundwater dependant terrestrial ecosystems during construction and/or operational stage of new developments or infrastructure;
- Changes to natural process of sedimentation and erosion;
- Introduction or increase of collision risk due to turbines;
- Changes to ecosystem services and functions, such as pollination, water attenuation and flood mitigation, climate change mitigation and adaption;
- Potential impacts on peat soils and hydrogeology, impacts on bird species, and habitat disturbance and uniquely to West Clare in particular the effects on the freshwater pearl mussel as an Annex species;
- Cumulative impacts from multiple developments and/or contribution of multiple developments to habitat loss/fragmentation and loss/disturbance to species;
- The Plan area is particularly important for Lesser Horseshoe Bats, with several designated and non-designated sites. Destruction of roosts, loss or fragmentation of commuting routes, and insensitive development and lighting can negatively impact this species;
- Potential for transboundary impacts and interactions with the above; and
- A general lack of recognition and appreciation of biodiversity outside of European sites. This is particularly relevant in relation to wildlife corridors and habitats and the role they play in the migration, dispersal and genetic exchange of wild species.

### 5.6.25 What would happen to biodiversity, flora and fauna without implementation of the Plan?

A wide range of economic and social benefits and services result from the protection of biodiversity, for example, biodiversity forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation and much more. In the absence of the new Plan pressures on natural resources would continue, though the rare or threatened habitats protected under EU and national legislation would continue to be protected.

In the absence of a Clare County Development Plan, there would be no framework to guide where development should occur, and planning applications would be assessed on a case-by-case basis with no overall vision for the Plan area. Flora and fauna, habitats and ecological connectivity would be protected under several largely independent strategic actions relating to biodiversity and flora and fauna protection. The evolution of biodiversity and flora and fauna would be dependent on the rate and extent of any such developments which would take place. There would be no consideration of the inter-connections between such things as climate change and biodiversity and therefore no provisions made to contend with future climate change and how to incorporate mitigation and adaptation measures so as to avoid or minimise significant effects on biodiversity.

Development along or adjacent to the banks of rivers could result in a reduction in ecological connectivity within and between these and other habitats. Pollution of water bodies as a result of any future development along river catchments would be likely to adversely impact aquatic biodiversity and flora and fauna including salmonid species and other species protected under Annex II of the Habitats Directive. Beneficial effects upon biodiversity and flora and fauna which would be likely to arise out of the specific policies and objectives included in the new Plan would not be realised.

In the absence of the Clare County Development Plan 2023-2029, any greenfield development would adversely impact upon biodiversity and flora and fauna by replacing natural or semi natural habitats with artificial surfaces. The significance of such impacts would be dependent on whether such developments would result in the loss of habitats or species of importance as well as the cumulative loss and fragmentation of habitats and species as a result of all Greenfield developments. The Clare County Development Plan 2023-2029 for the county could contribute to development occurring in a planned and sustainable manner, by incorporating ecological protection required by the Habitats Directive within an integrated planning framework for development management of vulnerable areas, which would not be presented in the absence of a Development Plan, resulting in less effective protection of ecological resources.

### 5.6.26 Data gaps/difficulties

- While Habitat Mapping is available for a some of the Plan area (South Clare, North-Mid Clare, Mid Clare, Mid-East Clare., Eastern Clare and Lough Derg, See **Figure 5.9.10**), it is dated and requires re-surveying. In addition, habitat mapping is also required for the entire County in order to better inform the planning process in particular at development management level.
- The trees for preservation GIS layer needs ground truthing to bring it up to date.
- Bat sites have been identified, but not commuting routes.
- Set aside areas of open space specifically for biodiversity are absent in the plan area.

- A general lack of understanding in relation to water, wetlands and flooding in the Plan area. The Plan area is within a karst region, with several protected wetlands, where engineering solutions do not achieve what is needed.
- Continuous mapping of the problem species, Knotweed and Giant Hogweed in particular and proposed long term management and control measures.
- Only generic conservation objectives are available for European Sites, fairly basic, and dated, descriptions, and little information relating to how to manage threats from development.
- Whilst the NPWS Rare and Protected Species database was consulted for records of species of conservation importance, this dataset is known to be incomplete, particularly in respect to fish, bats and birds, and therefore the absence of records for a certain species does not necessarily mean that the species does not occur.
- Uncertainty of what changes will occur within elements of the environment, for example climatic change/events which would have an impact on diversity.

**5.6.27 Inter-relationships with Other Environmental Parameters**

Bio-diversity has an inter-relationship with all the environmental parameters presented in the following section. There is a significant connection between nature, human health and quality of life.

|      | PHH | SG | W | ACF | L | CH | MAT | MAW | MAWS | MAWW | MARE |
|------|-----|----|---|-----|---|----|-----|-----|------|------|------|
| *BFF | √   | √  | √ | √   | √ | √  | √   | √   | √    | √    | √    |

(BFF = Biodiversity, Flora and Fauna; PYHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Climatic Factors; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Wastewater; (MA)RE = Renewable Energy; CH =Cultural Heritage;

**5.6.28 SEA Recommendations \***

\*Refer to Chapter 11 for full details on recommendations

When developing and incorporating policies and objectives for biodiversity within the County Development Plan it is important to recognise that biodiversity is inter-related to all the environmental parameters and similarly with the various components within the development Plan, for example with green infrastructure, climate change, landscape etc. As such, recommendations are made as follows:

| SEA Recommendations – Biodiversity, Flora and Fauna   | Inclusion in the Plan   |
|---|---|
| Biodiversity affects and can be affected by different facets of development and the County Development Plan must recognise and achieve its integration within the various components of the Plan and not consider it in isolation.  | Yes.  |
| Green Infrastructure should be incorporated as a component of the County Development Plan in its own right, recognising and acknowledging its inter-relationship with such things as social inclusion, sport, recreation, amenity, quality of life, sustainable transport and climate change. Green infrastructure requires clear definition in the Plan, emphasising that at the core of green infrastructure is biodiversity. Without biodiversity there would be no green infrastructure upon which to create and develop networks which present opportunities as referred to above, reinforcing the importance of the protection of biodiversity. The central theme of biodiversity in the context of green infrastructure should not be diluted or lost. | Additionally, Section 2.8.3 Green Infrastructure and Flood Management look at the further important and linkages with green infrastructure in these areas, Section 5.2.14 Green Infrastructure within Residential Development, Section 9.2.9 Activity and Adventure Tourism, Section 11.2.2 Smarter Travel and Sustainable Mobility, Chapter 15 and specifically Section 15.3 Green Infrastructure and Climate Change.  |
| Biodiversity and climate change are deeply interconnected. Climate change poses one of the biggest threats to biodiversity and the Plan needs to acknowledge and recognise that climate change is a phenomenon that is on-going and as such the baseline information is going to change over time and the Plan needs to be able to provide for these changes by incorporating resilience into the Plan through adaptation and mitigation measures.  | Building Climate change resilience into the Plan was central to both the zoning of lands and the development of objectives for economic growth. All land use zonings were assessed from a flood risk and environmental perspective to ensure resilience and adaptation were accounted for throughout. This led to changes to the zoning proposed and the inclusion of significant areas of buffer zone which will be protected from future development due to their location adjacent to river channels, the presence of important wildlife corridors or their importance for biodiversity. |
| Include an objective in the Plan in relation to the carrying out of a tree survey for the Plan area to inform future developments, townscape works and planting and replanting proposals.   | Yes, this has been included as per objective 15.19.   |
| Include an objective in the Plan which protects and conserves the specific designated sites within the Plan area.   | Yes, this has been included as per objective 3.1.   |
| The promotion of any designated sites for educational, recreational/leisure use it must be an objective that any such activity should not result in a negative impact on water quality and protected habitats and species. The necessary surveys will be required to support this.  | Yes.  |
| In an effort to protect and extend wildlife corridors through appropriate boundary treatment, landscaping   | Yes, this has been included as per section 15.2.10 Promoting and Protecting   |

|   |  |
|---|--|
| schemes and planting as part of developments, the Plan should seek to extend the network of wildlife areas within the Plan area.  | Biodiversity and Wildlife Corridors and objective 15.12  |
| The inter-relationship between green infrastructure and recreation should be acknowledged and an objective included to ensure recreational facilities are integrated into a green infrastructure network.   | Yes, this has been included as per objective 15.13   |
| Maintain existing and promote additional tree planting and undertake a tree survey to quantify any losses/gains.  | Yes, this has been included as per objective 15.20   |
| Control of alien invasive species and awareness of the methods by which these can be transferred and spread should be incorporated into the plan. Maintaining an up-to-date register and mapping of alien invasive species within the Plan area should form part of environmental monitoring.   | Yes, this has been included as per objective 15.29   |
| To ensure all proposed development within the vicinity of the Slieve Aughty Mountains SPA take Merlin into consideration and assess potential impacts on breeding pairs.  | The protection of Merlin was taken into consideration in the assessment of landuse zonings from an AA and SEA perspective. Mitigation Measures have been included to ensure consideration is given to the Slieve Aughty Mountains SPA at a development management level.   |
| Turloughs are a priority habitat for which grazing is integral to the ecology and it is important that appropriate grazing levels are maintained. Within Clare there a total of six SACs in which Turloughs are a Qualifying Interest and they are considered a priority habitat. The CDP should promote and support appropriate grazing regimes in these important habitats which serve an important function in terms of flood storage areas and biodiversity.                    | This is achieved through the inclusion of CDP Objective 15.16 relating to Inland Waterways and River Corridors which address the protection of Turloughs and Wetlands in particular.   |
| Given we are currently in a Climate and Biodiversity crisis the importance of protecting riparian buffer spaces or zones is critical for this planning cycle. Clare County Council need to ensure sufficient space is set aside for nature to combat the effects of climate change and to provide space for biodiversity. The space needs to be left clear of any type of development including the type which is perhaps permitted in “Open Space” zoning such as play facilities. | Through a co-ordinated effort between the SEA/AA Environmental team together with the Forward Planning team a total of 511.1 hectares has been zoned as Buffer space which will provide for Climate Change and Biodiversity in line with the Climate Change Action Plan and the National Biodiversity Action Plan. |

## 5.7 Population, Human Health and Quality of Life

### 5.7.1 Introduction

This Section sets out the existing baseline information on Population, Human Health and Quality of Life for the County Development Plan area.

The National Planning Framework and the Regional Spatial Economic Strategy set out transitional local authority population projections to 2031 which makes provision for the population of County Clare to grow to between 134,000-137,000 by 2031. The Regional Spatial and Economic Strategy for the Southern Region including the Limerick Shannon Metropolitan Area Strategic Plan (MASP) include interim population targets to 2026 and 2031. **Figure 5.7.1** gives an overview of the MASP area.

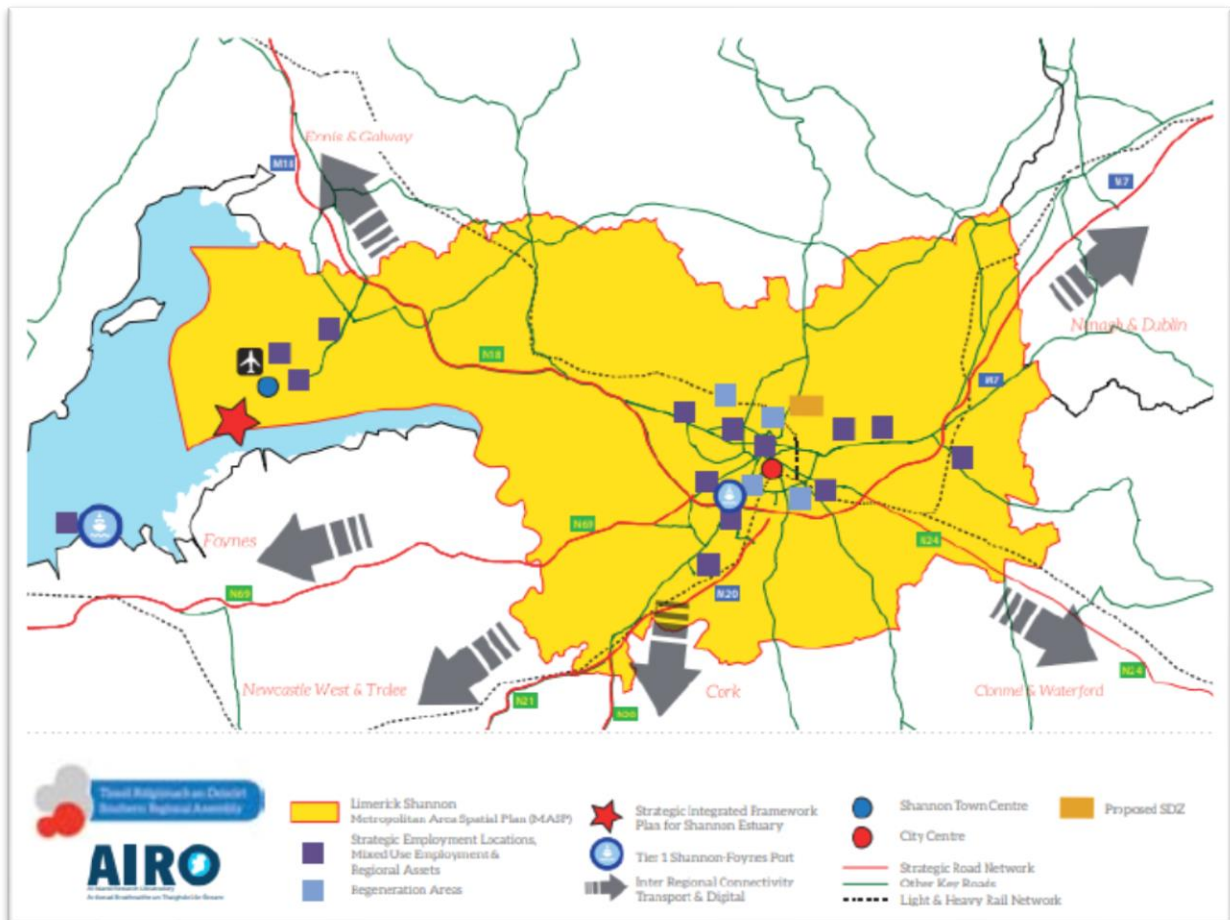


Figure 5.7.1 Limerick Shannon Metropolitan Area Strategic Plan

Source: RSES 2018

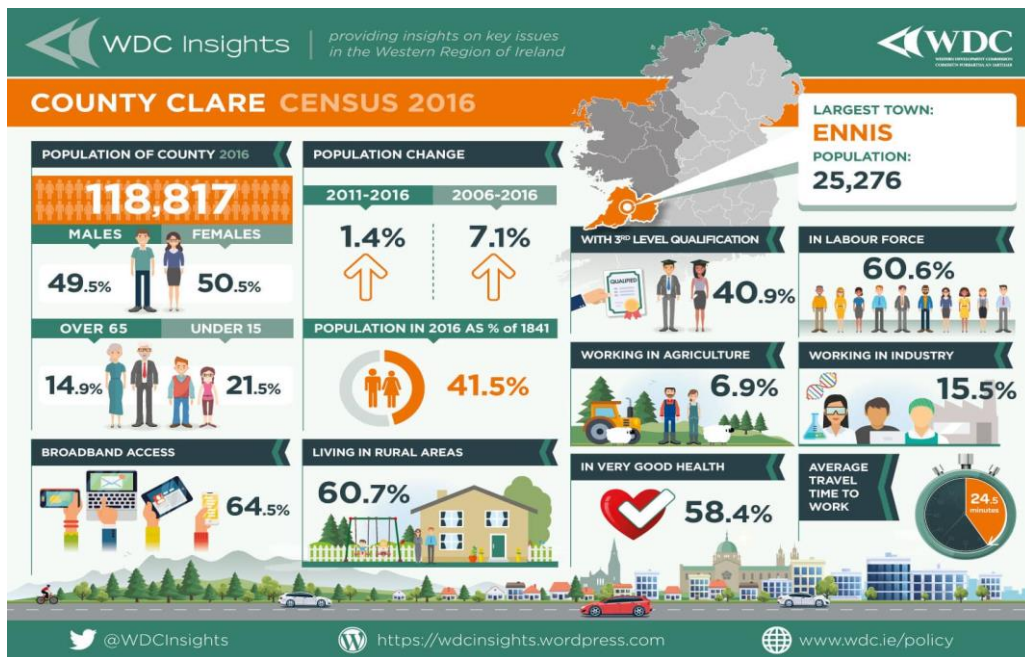


| Area                                      | Population 2016 | Projected Population 2026 | Projected Population 2031 |
|---|-----------------|---------------------------|---------------------------|
| Limerick City and Suburbs (in Limerick)   | 89,671          | 111,192                   | 121,953                   |
| Limerick City and Suburbs (in Clare )     | 4,521           | 5,607                     | 6,150                     |
| Subtotal                                  | 94,192          | 116,799                   | 128,103                   |
| Remainder Metropolitan Area (in Limerick) | 15,281          | 16,924                    | 17,622                    |
| Remainder Metropolitan Area (in Clare )   | 22,947          | 25,414                    | 26,463                    |
| Subtotal                                  | 38,228          | 42,337                    | 44,085                    |
| Total Limerick Shannon Metropolitan Area  | 132,420         | 159,136                   | 172,188                   |

Source: Regional Spatial and Economic Strategy

**Table 5.7. 1 Population targets for the MASP**

The 2016 Census population data for Clare suggests that there is evidence of a continuation of strong growth with an increase of population from 2011-2016 of 1.4% and from 2006-2016 of 7.1% to the current population of 118,817 in County Clare. Our largest town of Ennis has a population of 25,276.



**Figure 5.7.2 Key Census 2016 statistics for County Clare**

The National Spatial Strategy and the Mid-West Regional Planning Guidelines 2010-2022 have now been superseded by the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy for the Southern Region (RSES) and will inform the preparation of the Clare County Development Plan

The RSES gives effect, at a regional level, to the National Planning Framework together with the National Development Plan. The RSES provides a regional framework for the formulation of the

policies and objectives and the overall strategy for sustainable development in the County Development Plan and seeks to ensure the proper balance between the different settlements in the region with regard to development, population and services.

### The National Planning Framework

The National Planning Framework is a planning framework to guide development and investment over the coming years along with the growth of Ireland’s population. It does not provide every detail for every part of the country; rather it empowers each region to lead in the planning and development of their communities, containing a set of national objectives and key principles from which more detailed and refined plans will follow. The companion to the NPF is the National Development Plan, a ten year strategy for public capital investment of almost €116 Billion. Together the NPF and the NDP is referred to as Project Ireland 2040.

### The Regional Spatial and Economic Strategy

The RSES for the Southern Region is a 12-year strategic regional development framework for the future physical, economic and social development of the region and to guide change. It establishes a broad framework for the way in which our society, environment, economy, and the use of land should evolve. It includes Metropolitan Area Strategic Plans (MASPs) for Limerick-Shannon, Cork, and Waterford.

The RSES primarily aims to support the delivery of the programme for change set out in Project Ireland 2040, the National Planning Framework (NPF) and the National Development Plan 2018-2027 (NDP) by marrying regional spatial and economic planning together for the first time in Ireland. As the regional tier of the national planning process, it will ensure coordination between the City and County Development Plans (CCDP) and Local Enterprise and Community Plans (LECP) of the ten local authorities in the Region.

The level of change required by the NPF cannot be implemented immediately and it will take several cycles of the RSES process to achieve change to long-term patterns of sustainable development. This first RSES is primarily concerned with setting the course to embed long term change.

The RSES recognises the strategic role played by all areas, urban and rural, in achieving the set regional and national targets and objectives. Support for sustainable growth of all communities, urban and rural, are supported by the RSES. A strategy is pursued that builds on cities and metropolitan areas as engines of growth and seeks in parallel to re-position the region’s strong network of towns, villages, and diverse rural areas in an economically resilient, imaginative and smart manner to create a sustainable competitive advantage for the region.

The NPF and the RSES set out Transitional Local Authority Population Projections to 2031. **Table 5.7.2** specifies the County population projections to 2031 as set out in the National Planning Framework.

|              | 2016    | 2026            | Uplift 2016 to 2026 | 2031            | Uplift 2016 to 2031 |
|--------------|---------|-----------------|---------------------|-----------------|---------------------|
| County Clare | 119,000 | 129,500-131,500 | 10,500– 12,500      | 134,000-137,000 | 15,000- 18,000      |

Source; NPF Implementation Roadmap – July 2018 – DoHPLG

**Table 5.7.2 Population Projections to 2031 as set out in the NPF**

The population growth provided for County Clare under the RSES is much less than that set out in the previous period in the NSS and the Mid-West Regional Planning Guidelines 2010-2022. While some concern is expressed as to the new modest population targets the following should be kept in mind:

- The sub-regional targets of the Mid-West Regional Planning Guidelines 2010-2022 were based on each county and city retaining the same % of the target regional population that it had at the time of 2006 Population Census
- The targets set out in the RSES is based on a dual tract strategy that builds on the cities, metropolitan areas as significantly scaled engines of growth, and supports opportunities for sustainable competitive advantage by repositioning the regions strong network of towns, villages and rural areas.
- The actual population growth versus the target population growth in the 10 year period from 2006-2016 was 7% rather than the 18% target.
- The actual population growth over a 25-year period for County Clare 1.2% (compound)
- The NPF figure allows for a 0.96% annual growth.

Therefore, the Core Strategy of the forthcoming plan 2022 to 2028 must realign its population growth and residential zoning with the reduced population target of the RSES for both the County and that area of the county within the Limerick/Shannon Metropolitan Area.

To do so, consideration needs to be given to the overall settlement strategy which will set out the development framework for the county, which will give spatial expression to the population distribution and settlement hierarchy.

| Area  | Population 2016 | Projected Population 2026 | Projected Population 2031 |
|---|-----------------|---------------------------|---------------------------|
| Limerick City and Suburbs (in Limerick)         | 89,671          | 111,192                   | 121,953                   |
| Limerick City and Suburbs (in Clare )           | 4,521           | 5,607                     | 6,150                     |
| Subtotal  | 94,192          | 116,799                   | 128,103                   |
| Remainder Metropolitan Area (in Limerick)       | 15,281          | 16,924                    | 17,622                    |
| Remainder Metropolitan Area (in Clare )         | 22,947          | 25,414                    | 26,463                    |
| Subtotal  | 38,228          | 42,337                    | 44,085                    |
| <b>Total Limerick Shannon Metropolitan Area</b> | <b>132,420</b>  | <b>159,136</b>            | <b>172,188</b>            |

**Table 5.7.3 Projected Populations 2026 and 2031 for the Limerick-Shannon Metropolitan Area**

Source; *Regional Spatial and Economic Strategy*

### 5.7.2 Population

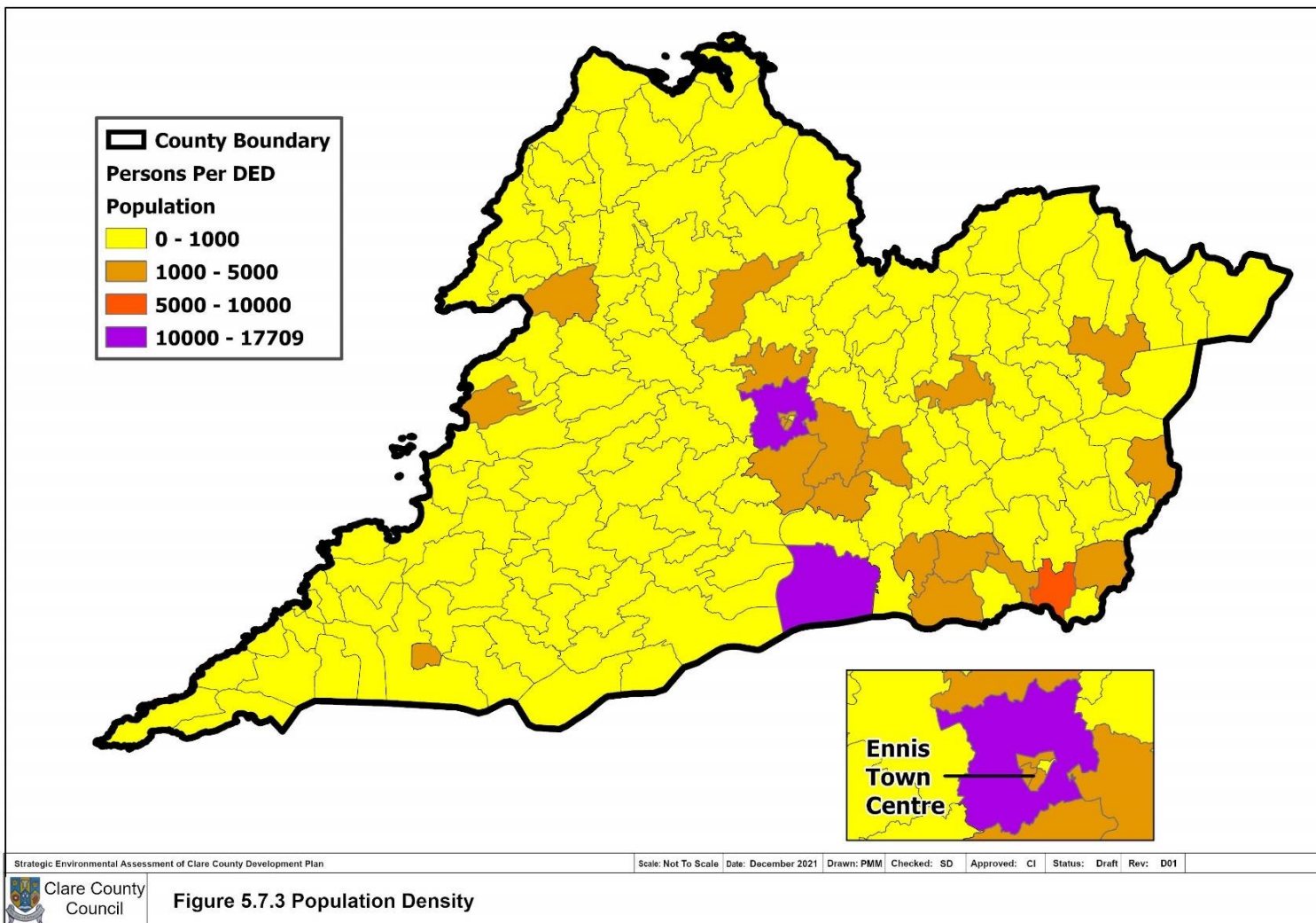
Ennis, with a population of 25,276 people in the 2016 Census is the largest settlement in County Clare, is the largest town in Munster, and is the fifth largest settlement in the Southern Region. It is designated as a “Key Town” in the Regional Spatial and Economic Strategy for the Southern Region, and as the County Town for Clare is an important residential, service, and commercial centre providing significant levels of employment. The Regional Spatial and Economic Strategy for the Southern Region also recognises the Limerick-Shannon- Ennis triangle as the economic engine of the Mid-West. Ennis is at the top of the Settlement Hierarchy for the County and a new local area plan to guide and support the future development of Ennis and its environs will be prepared during the lifetime of this Development Plan. In addition to the preparation of the local area plan the ‘*Ennis 2040 – Economic and Spatial Strategy*’ will create a long-term strategy for the sustainable development of the Town. Shannon Town was developed from the 1960’s onwards in response to the growth and development of Shannon Airport and the Shannon Free Zone Industrial Estate and in 2016 had a population of 9,729 people. It is a world leader in aviation, manufacturing, and distribution, occupies a strategic position to the west of Ireland, is a centre of international business, has strong synergies with Limerick City, Ennis and the wider Region and is central to delivering the ambition for the Limerick-Shannon Metropolitan Area’s economic, social diversity and tourism development. The Regional Spatial and Economic Strategy for the Southern Region identifies Shannon for significant population growth (i.e. greater than a 30% increase by 2040). The Limerick-Shannon Metropolitan Area Strategic Plan identifies a significant opportunity for Shannon to expand as a globally recognised centre for software engineering/aviation/logistics talent and supports Shannon as a centre for research and development for autonomous vehicles. A new local area plan to guide and support the future development of Shannon Town and its Environs will be prepared during the lifetime of this Development Plan. In addition, Clare County Council are currently preparing a Shannon Town Masterplan. The purpose of the masterplan is to define the focus for economic, spatial and property development for Shannon

Town Centre. It is intended that the masterplan will unlock the development potential and guide and stimulate the future economic and landuse development of all lands within Shannon Town Centre.

### **5.7.3 Accomodation Profile**

According to the CSO data for 2016, there are a total of 43,468 households within County Clare of which the majority were houses and bungalows as outlined in **Table 5.7.4**. As identified in **Table 5.7.5** there has been a steady increase each year in the number of homes built, with clear peaks during the 1991 to 2000 period and again from 2001 to 2005.

Figure 5.7.3 Population Density by DED





**Table 5.7.4 Private households by type of accommodation in County Clare**

| Type of accommodation | Households    | Persons        |
|-----------------------|---------------|----------------|
| House/Bungalow        | 40,471        | 110,735        |
| Flat/Apartment        | 2,297         | 4,400          |
| Bed-sit               | 33            | 67             |
| Caravan/Mobile home   | 121           | 235            |
| Not Stated            | 547           | 1,483          |
| <b>Total</b>          | <b>43,468</b> | <b>116,920</b> |

Source; Census 2016

**Table 5.7.5 Permanent private households by year built in County Clare**

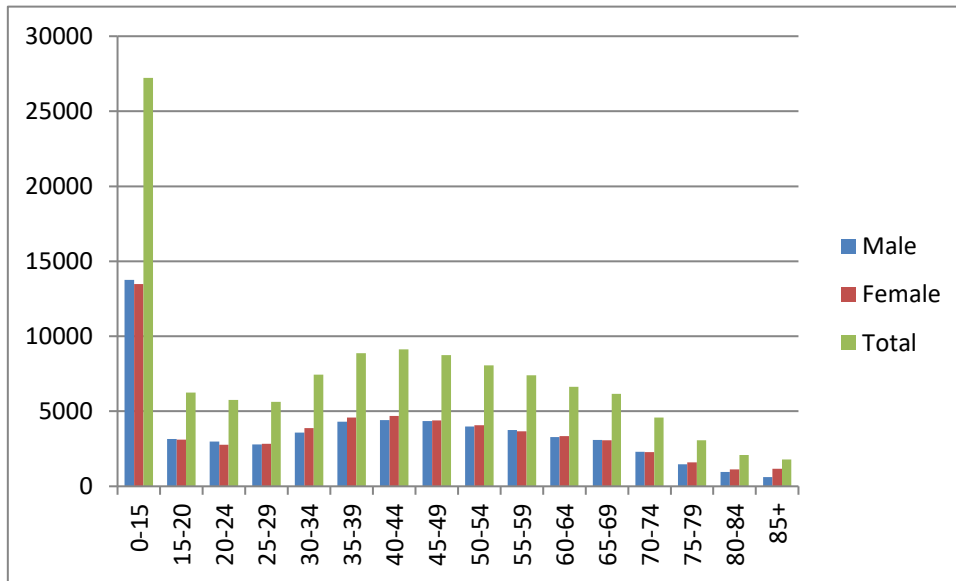
| Year Built    | Households    | Persons        |
|---------------|---------------|----------------|
| Pre 1919      | 3,690         | 7,779          |
| 1919 to 1945  | 2,401         | 5,011          |
| 1946 to 1960  | 2,347         | 5,161          |
| 1961 to 1970  | 3,123         | 7,144          |
| 1971 to 1980  | 5,679         | 13,734         |
| 1981 to 1990  | 4,812         | 12,949         |
| 1991 to 2000  | 6,712         | 20,796         |
| 2001 to 2005  | 11,406        | 35,573         |
| 2006 or later | 865           | 2,571          |
| Not stated    | 2,286         | 5,967          |
| <b>Total</b>  | <b>43,348</b> | <b>116,685</b> |

Source; Census 2016

#### 5.7.4 Age Profile

The bar chart in **Figure 5.7.4** shows the age structure of the County population male and female as recorded on Census Night 2016. Clare has a large percentage of its population for both males and females in the 0-15 age groups category. While the total of both sexes has increased over the census period there are more females than males living in County Clare in 2016.

Age dependency shows the ratio of the old and young population to the population of working age. The young dependency ratio is the number of young people aged 0 -14 as a percentage of the population of working age.

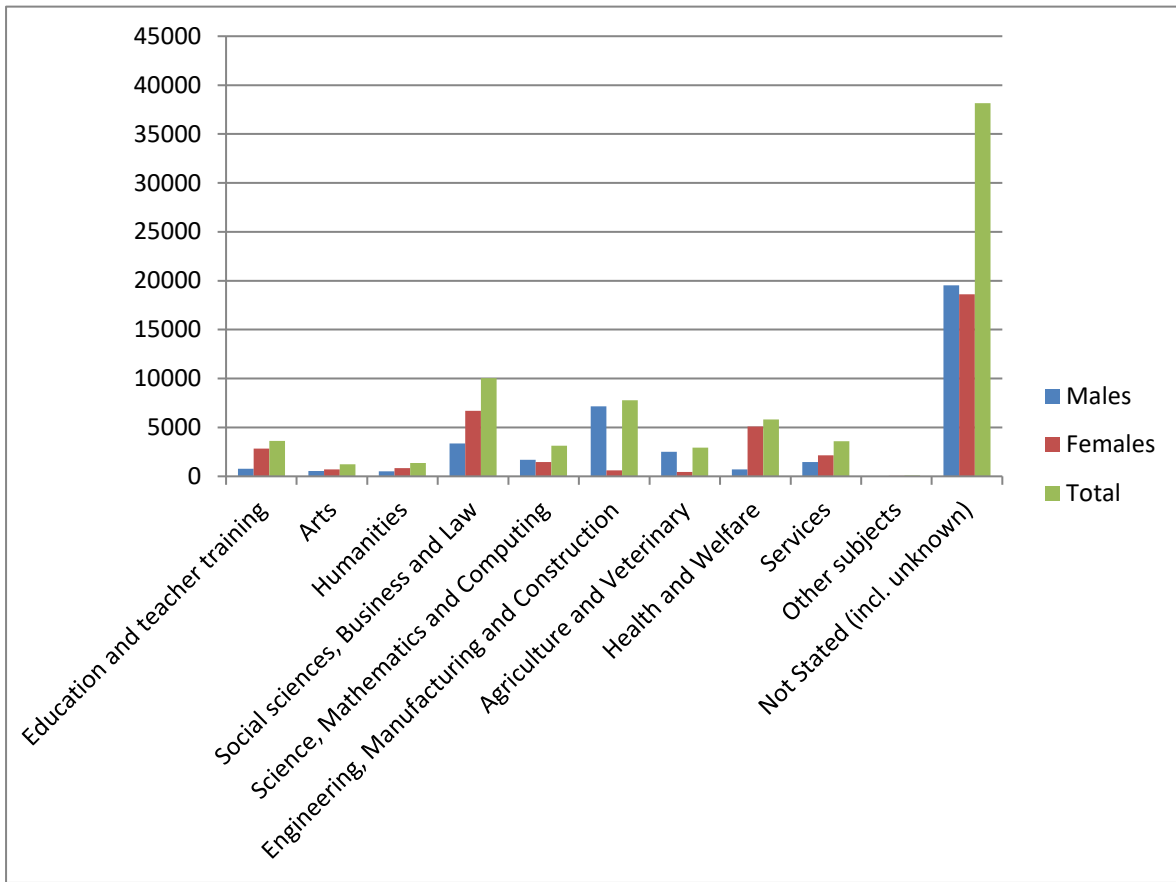
**Figure 5.7.4 Clare Age Profile 2016**

Source: *Central Statistics Office 2016*

### 5.7.5 Education Profile

**Figure 5.7.5** identifies the population aged 15 years and over by highest level of education completed. From an analysis of these figures, Clare has seen an increase in the number who are progressing to completion of upper secondary education or higher when compared with 2011/2016 coupled with third level education and other forms of continued further education. This reflects the changes which took place during the downturn in the economy with fewer jobs and opportunities arising and therefore the return to education for a greater proportion of the population. It also reflects the changing nature of industry in requiring a higher level of skill and education for its workforce and the competitive nature of the jobs market which now requires graduates at the highest level of education.

**Figure 5.7.5 Population aged 15 years and over by highest level of education completed**



Source: Central Statistics Office 2016

**5.7.6 Employment & Economy**

The 2016 Census figures (**Table 5.7.6**) showed that 53% of the total population aged 15 years and over in county Clare were at work which represents a significant drop from 2011. The unemployment rate based on a principal economic status basis measures the percentage of people in the labour force who were either looking for their first job or unemployed. The unemployment rate for Clare (taking the principal economic status classes; Unemployed looking for first regular job & Unemployed having lost or given up previous job) stood at 7.5% in the 2016 Census, representing a decrease of increase from 1.4% from 2011.

**Table 5.7.6 Population aged 15 years and over by principal economic status and sex**

| Principal Economic Status                              | Male          | Female        | Total         |
|--|---------------|---------------|---------------|
| At work  | 26,611        | 22,900        | 49,511        |
| Looking for first regular job                          | 381           | 285           | 666           |
| Unemployed having lost or given up previous job        | 3,696         | 2,656         | 6,352         |
| Student  | 5,063         | 5,360         | 10,423        |
| Looking after home/family                              | 531           | 6,878         | 7,409         |
| Retired  | 7,650         | 7,336         | 14,986        |
| Unable to work due to permanent sickness or disability | 1,737         | 1,846         | 3,583         |
| Other  | 133           | 182           | 315           |
| <b>Total</b>   | <b>45,802</b> | <b>47,443</b> | <b>93,245</b> |

Source: Central Statistics Office 2016

The key economic sector in Clare accounting for 28 per cent of the working population of County Clare was managerial and technical which is a change from the non manual sector in 2011. This was followed by non manual sector. Skilled manual and semi-skilled make up the majority of the remaining classes which reflects the rural nature of the county.

**Table 5.7.7 Persons at work by industry and sex**

| Social Class                              | Male          | Female        | Total          |
|---|---------------|---------------|----------------|
| Professional workers                      | 4,840         | 3,977         | 8,817          |
| Managerial and technical                  | 15,611        | 18,229        | 33,840         |
| Non-manual                                | 8,271         | 12,971        | 21,242         |
| Skilled manual                            | 11,524        | 6,158         | 17,682         |
| Semi-skilled                              | 6,835         | 6,058         | 12,893         |
| Unskilled                                 | 2,293         | 1,670         | 3,963          |
| All others gainfully occupied and unknown | 9,411         | 10,969        | 20,380         |
| <b>Total</b>                              | <b>58,785</b> | <b>60,032</b> | <b>118,817</b> |

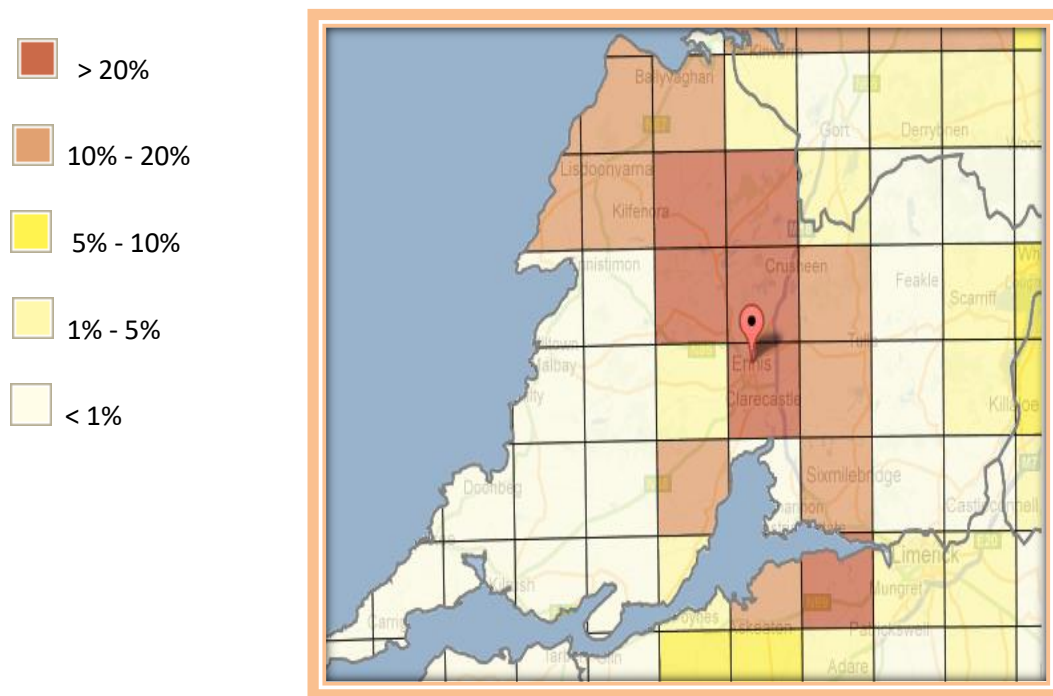
Source: Central Statistics Office 2016

### 5.7.6 Human Health and Quality of Life

The cumulative effects of population change can impact on human health and quality of life. Direct effects relate to matters such as water and air quality, noise, and landscape change. Indirect effects relate to such matters as flora and fauna. Issues relating to radon and noise are mentioned here and associated effects of transport, material assets, air quality and climate change are discussed in more detail in the relevant sections.

#### Radon

Radon levels in the County have been collated from the Radiological Protection Institute of Ireland. The estimated percentage of homes above the Reference Level is indicated on **Figure 5.7.6** as per the associated legend. As evidenced, the central portion of the development Plan Area is situated in a high radon area. A High Radon Area is any area where it is predicted that 10% or more of homes will exceed the Reference Level of 200 Bq/m<sup>3</sup>.

**Figure 5.7.6 Estimated Percentage of Homes above the Reference Level in Co. Clare**

Source: Radiological Protection Institute of Ireland

## Noise

Noise can have a significant effect on an individual's quality of life. Urban areas generally experience a higher level of background noise caused by traffic from roads, junctions or congestion, other transport facilities and routes e.g. bus, train and air; industrial areas due to their operating activity and/or traffic movements they generate in terms of their workforce, deliveries etc; late night activities and uses in neighbourhood centres e.g. late night take-aways and late night deliveries; construction activities on development sites etc. Environmental noise is defined by the EU as *"unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport and sites of industrial activity"*.

The Clare Noise Action Plan 2018 was prepared by Clare County Council to address environmental noise from major roads with more than three million vehicles per annum. The action planning area covers the M18, N18, N19, N68, N85, Sections of R445, R458, R463, R352, R468, R471. It follows on from the preparation of the 2013 Noise Action Plan which addressed environmental noise from roads with more than three million vehicles per annum and the 2008 Noise Action Plan which addressed environmental noise from roads with more than six million vehicles p.a. The objectives of the Plan are to avoid, prevent and reduce, where necessary, on a prioritised basis the harmful effects, including annoyance, due to long term exposure to environmental noise. Protection of the future noise environment may be achieved by acoustical planning, which further incorporates noise into the planning process via measures such as land-use planning, sound insulation measures, traffic planning and control of environmental noise sources. The plan has been prepared in accordance with the requirements of EU Directive 2002/49/EC (known as the Environmental Noise Directive, or "END"), which was transposed into Irish Law by the Environmental Noise Regulations 2006, SI No. 140 of 2006.

Noise within the Plan area is dominated by that generated by road traffic, in particular the M18, N85 and the R458 (Old Limerick to Galway Road). Since the construction of the M18 traffic generated noise levels along the old national routes within the urban area has decreased. The level of environmental noise generated by road traffic is dependent on a range of factors including the number of vehicles, the speed of vehicles, the road surface, and the incline. The extent to which noise travels from the road is affected mainly by distance, weather, presence of acoustic barriers, buildings, roads width, road incline, topography, and vehicle noise.

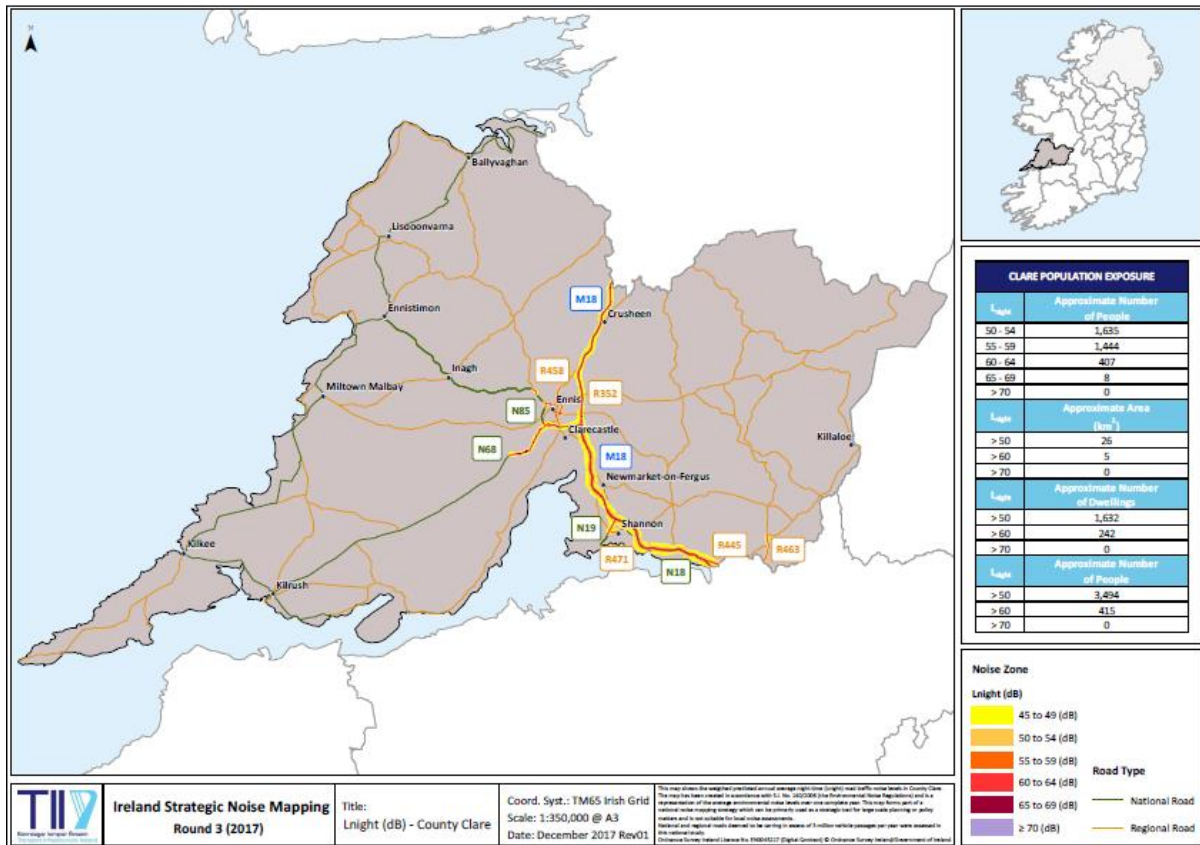
A general overview of the noise climate in County Clare can be obtained through examination of the strategic noise mapping. The purpose of the strategic noise maps is to identify the areas affected by different levels of environmental noise from major roads, railways, airports, and agglomerations. The maps are a visual representation of estimated noise contour bands within the action plan area from 55dB Lden to greater than 75dB Lden, in 5dB bands. The maps have been linked to population data to estimate the numbers of people located in each environmental noise bands. This information is then used to produce noise action plans, which will endeavour to manage existing environmental noise from the major sources and protect the future noise environment.

Transport Infrastructure Ireland (TII) formerly the National Roads Authority (NRA), as the noise mapping body for major national roads, has prepared noise maps for the sections of the National Routes – (M and N routes) in Clare that were confirmed by verified vehicle count data to have more than 3 million vehicles per annum. TII on behalf of Clare County Council has prepared noise maps for Regional roads (R route) with more that 3 million vehicles per annum. TII has estimated from the noise maps and from geodirectory data that approximately 6,629 individuals living within the action planning area in Clare may be located in environmental noise bands from 55 to >75dB Lden. Approximately 4,279 individuals may be located in noise bands from 50 to >70dB Lnight.

The TII noise mapping for county Clare is shown in **Figure 5.7.7**.



**Figure 5.7.7 Noise Mapping for County Clare**



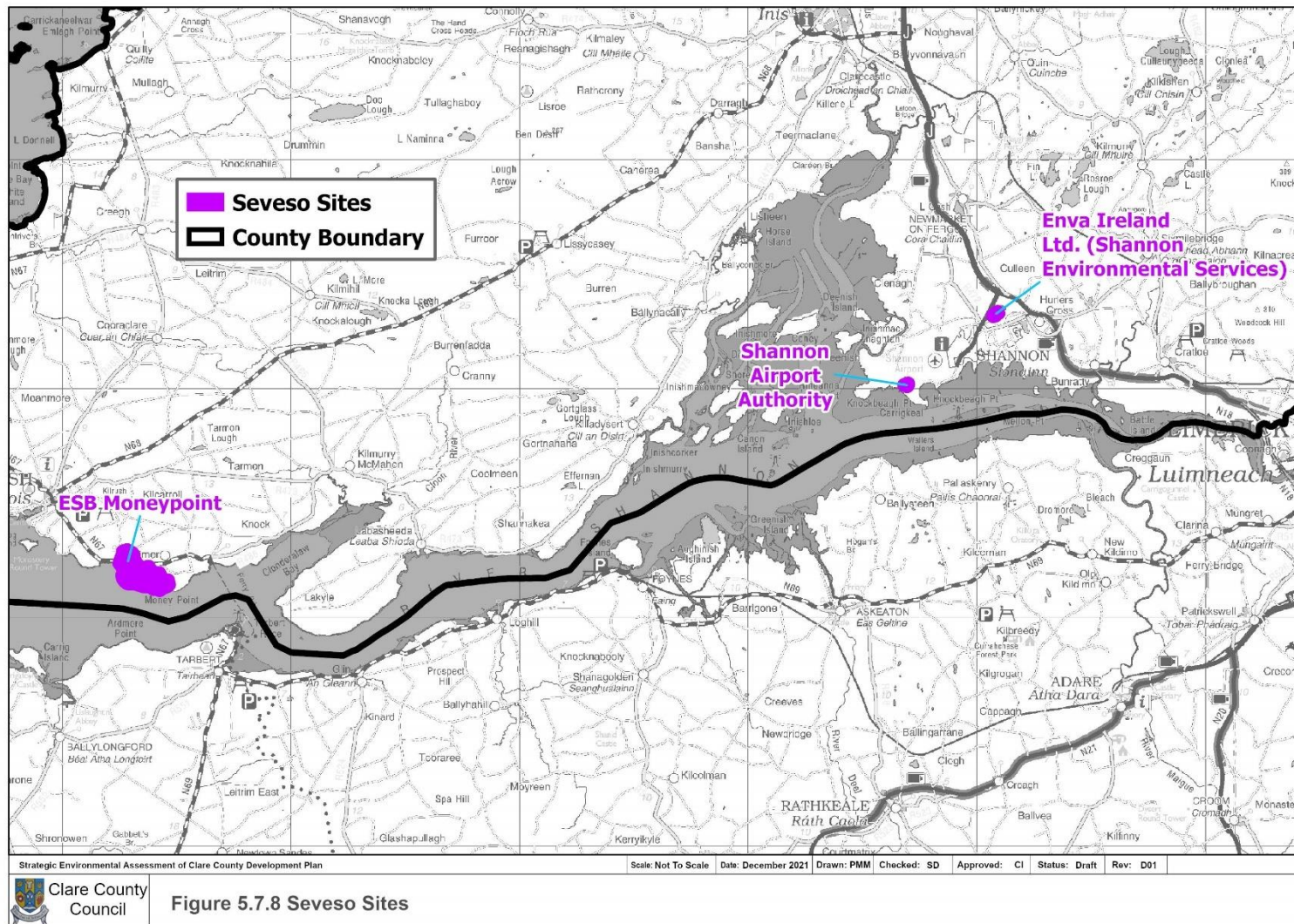
Another source of noise is Shannon International Airport, though this is localised and predominately throughout the daytime hours.

The reopening of a number of railway stops and the connection of the railway line from Ennis to Galway has also led to additional noise levels in particular through various settlements such as Cratloe, Sixmilebridge, Ennis and Crusheen. Given the type of commuter train largely used on this line noise levels are minimal causing little disturbance.

**Seveso Sites**

Seveso sites are those which store significant amounts of dangerous or harmful substances and proximity to these sites could represent a potential impact to human health. They are regulated under the COMAH regulations (Control of Major Accident Hazards Involving Dangerous Substances; S.I.476 of 2000). There are five Seveso site in County Clare, two Upper Tier sites and one Lower Tier Sites (representing thresholds of 50 and 200 tonnes respectively). These three sites and their locations are given in the following table and illustrated in **Figure 5.7.8**. The most significant change to this list from the last Plan is the removal of Roche Pharmaceuticals as operations have ceased at the site with plans granted for a full remediation of the plant back to Greenfield conditions. This represents a significant improvement to human health not only within proximity to the facility but right across the county as emissions to air and water are removed together with the considerable remediation works that will be involved in removing any contaminated material which was historical stored or landfilled onsite.

Figure 5.7.8 Seveso Sites



| Establishment Name                | Establishment Address                                     |
|-----------------------------------|---|
| <b>Upper Tier Sites</b>           |   |
| ESB Moneypoint Generating Station | Kilrush, Co. Clare  |
| Shannon Aviation Fuels            | Aer Rianta Fuel Farm, Shannon Airport, Shannon, Co. Clare |
| <b>Lower Tier Sites</b>           |   |
| Enva Ireland Ltd (t/a Enva)       | Smithstown Industrial Estate, Shannon, Co. Clare          |

**Table 5.7.8 Seveso sites in County Clare**

### Integrated Pollution Control (IPC) sites

The EPA has been licensing certain activities since 1994. IPC licensing is governed by the Environmental Protection Agency Act 1992 as amended. Detailed procedures concerning the IPC licensing process are set out in the EPA Act 1992 as amended, and the associated licensing regulations.

IPC licences aim to prevent or reduce emissions to air, water, and land, reduce waste and use energy/resources efficiently. An IPC licence is a single integrated licence which covers all emissions from the facility and its environmental management. All related operations that the licence holder carries in connection with the activity are controlled by this licence.

There are 7 IPC facilities in the Plan area as outlined in **Table 5.7.9** and shown in **Figure 5.7.8** which represents a reduction of 9 from the last Plan. This is due largely to the closure of many of the larger facilities and pharmaceutical companies such as Roche in Clarecastle and Molex in Shannon which represents an overall improvement for the county in terms of human health.

| Facility                                  | IPC No.  | Location   | Principle Activity                |
|---|----------|--|-----------------------------------|
| Finsa Forest Products Limited             | P0022-02 | Scarriff, Co. Clare                                    | Wood, Paper, Textiles and Leather |
| Lufthansa Technik Shannon Ltd             | P0069-02 | Shannon Airport, Shannon, Co. Clare                    | Surface Coating                   |
| Saint-Gobain Performance Plastics Ireland | P0096-02 | Kilrush, co. Clare                                     | Surface Coating                   |
| Heraeus Metal Processing Limited          | P0145-01 | No. 75, Shannon Industrial estate, Shannon, Co. Clare  | Metals                            |
| Shannonside Building Supplies Limited     | P0319-01 | Fort road, Kilrush, Co. Clare                          | Wood, paper, textiles, leather    |
| International Aerospace Coatings Limited  | P0497-02 | Shannon Airport, Shannon, county Clare                 | Surface coating                   |
| Element Six                               | P0533-01 | Bay 371, Shannon Industrial Estate, Shannon, co. Clare | Mineral Fibres and Glass          |

**Table 5.7.9 IPC licenced Activities in County Clare**

### Pollutant Release and Transfer Register

Ireland's [Pollutant Release and Transfer Register](#) (PRTR) provides a publicly accessible and searchable database which members of the public can use to search for installations in Ireland which are releasing [PRTR pollutants](#) in excess of specific thresholds or making off-site transfers of waste above specified thresholds for non-hazardous and hazardous wastes. The register also fulfills requirements of the

Aarhus Convention, as a simple means of affording access to information about environmental emissions and transfers.

There are fourteen licensed PRTR facilities within the Plan area (**Table 5.7.10**) - Roche Ireland Ltd in Clarecastle and Essidev S.A. in the Gort Road Industrial Estate.

| PrtrTitle                                   | Reg. No  | Licence Type | Main PRTR Sector                    | Main PRTR Activity |
|---|----------|--------------|-------------------------------------|--------------------|
| Roche Ireland Limited: P0012-05             | P0012-05 | IEL          | Chemical industry                   | 4.(e)              |
| Eirchem Pharma Services Limited: P0020-02   | P0020-02 | IEL          | Chemical industry                   | 4.(e)              |
| Essidev S.A.: P0061-03                      | P0061-03 | IEL          | Chemical industry                   | 4.(a).(viii)       |
| ITW Ireland Unlimited Company: P0072-04     | P0072-04 | IEL          | Chemical industry                   | 4.(a).(ii)         |
| Chemifloc Limited: P0076-01                 | P0076-01 | IEL          | Chemical industry                   | 4.(b).(iv)         |
| Heraeus Metal Processing Limited: P0145-01  | P0145-01 | IPC          | Chemical industry                   | 4.(b).(v)          |
| Molex Ireland Limited: P0288-02             | P0288-02 | IEL          | Production and processing of metals | 2.(f)              |
| Galvotech (International) Limited: P0292-01 | P0292-01 | IEL          | Production and processing of metals | 2.(f)              |
| Electricity Supply Board: P0605-04          | P0605-04 | IEL          | Energy sector                       | 1.(c)              |
| Clogrennane Lime Limited: P0771-02          | P0771-02 | IEL          | Mineral industry                    | 3.(c).(iii)        |
| Clare County Council: W0037-01              | W0037-01 | IEL          | Waste and wastewater management     | 5.(d)              |
| Enva Ireland Limited: W0041-01              | W0041-01 | IEL          | Waste and wastewater management     | 5.(a)              |
| Clare County Council: W0109-02              | W0109-02 | IEL          | Waste and wastewater management     | 5.(d)              |
| Clean (Irl) Refuse & Recycling Co: W0253-01 | W0253-01 | IEL          | Waste and wastewater management     | 5.(c)              |

**Table 5.7.10 IPC Licenced Facilities**

### Climate Change, Flooding and Human Health

The potential impacts of climate change on human health can materialise in several ways. Direct impacts can result from prolonged periods of hot or cold weather which can lead to heat and cold stresses and their associated effects. Milder winters may lead to lower fuel consumption and few cold related deaths and higher summer temperatures may lead to more heat stress related cases. Severe icy/flood conditions can affect the provision of critical, emergency and/or transport services. Indirect effects on human health may also increase as a result of the effects of extreme weather events on



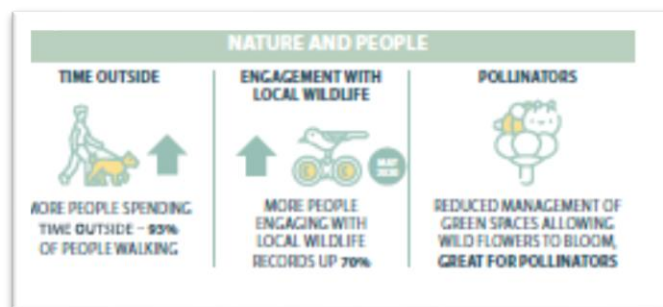
other environmental parameters, for example water quality, which are addressed under the respective sections of this chapter.

Climate change poses a number of significant hazards to society and the environment. Unless early action is taken to identify, understand and begin to deal with them, it may be too late to choose the way in which to adapt to climate change.

Climate change may also bring opportunities for cost savings, may allow new businesses to emerge or may make possible new ways to foster environmental sustainability. Those who have adapted to change in the most far-sighted and cost-effective manner will enjoy a competitive advantage over those who have failed to act. We are unlikely ever to be totally insulated from the effects of the climate we live in, and nor would we necessarily want to be. But we do need to take steps now to ensure that we are as resilient as possible to potential future climate changes and, in so doing, to make ourselves better able to cope with climate change in the present.

### The Natural Environment, Human Health and Quality of Life

Our natural environment provides us with the essential services that we need for life, including air, water and food. Any deterioration in the quality of these elements can impact on our health and quality of life, and ultimately on our life expectancy. Exposure to the natural environment can have significant positive benefits to our well-being. Experiencing and connecting with nature through the many resources available, from town parks to national parks and everything in between. The experiences gained from it stimulate senses and emotions which contribute to an overall sense of well-being. The protection, management and accessibility of our natural environment therefore has to be a central component in the future planning for a healthy population. The COVID-19 outbreak has awakened a stronger appreciation of our connectedness to the environment on a local scale (within 5km of where we live). Media reports over this year (2020-2021) of confinement contain many examples of young and old re-engaging with their environment, enhancing their appreciation for nature and benefitting from access to it. Research undertaken for the Environmental Protection Agency (EPA) demonstrated that, among the citizens surveyed, the previously stated barriers to engaging with their local environment (lack of time from being at work, busy at home and poor weather) diminished in importance during the first half of 2020 (Kindermann *et al.*, 2020). The results of this survey also noted increases in early 2020 relative to 2019 of between 30 per cent and 45 per cent in the time spent in blue and green spaces for physical and mental health, with nearly half of the respondents reporting discovering new, or rediscovered old, green, and blue spaces in their community.



**Figure 5.7.9 Extract from Ireland in the Pandemic – environmental indicators (Source: O’Leary, et al., 2020)**

### 5.7.8 Issues and Threats

The County of Clare has experienced ever increasing development pressures, but a changing economic climate due to the global world pandemic, the move to net zero carbon emissions and the requirement to decarbonise our very fabric of life is going to change the way we live, work, and recreate. This in turn presents challenges for the future in relation to the provision of housing in rural areas as remote working becomes part of the norm. The trend over the past number of planning cycles has been towards outward movement from the Plan area in pursuit of employment. We now have a real opportunity to retain the younger age cohorts within the area and encourage those who work within the area to also live within it and to encourage additional employment opportunities within the Plan area.

The population of Ennis (including Clarecastle) increased by 2.26% between 2011-2016 and compared with other Hub towns it has seen one of the lowest increases. Of concern is the significantly higher growth seen in the environs which has greater environmental implications.

The unemployment rate in Clare stands at 12.4% (Census 2016). In order to avoid continued losses there must be a pro-active approach to encourage the existing population of the area to remain by providing employment opportunities, services and resources which will benefit the entire county. There is a need to provide sustainable alternative employment options for the people of Clare. County Clare is ideally placed to provide long term sustainable employment which will address the requirement to achieve net zero emissions by 2050. These opportunities are already in train with the announcement in April 2021 of ESBs plans to progress 2 Offshore Floating Windfarms together with a Green Hydrogen Hub at its current coal fired station at Moneypoint.

Pressure on the existing wastewater infrastructure and water supply and the capacity for it to accommodate growth within each of the settlement areas for residential and employment uses is a significant issue across the county. The same concern exists in relation to water quality and the risk of contamination from the proliferation of individual wastewater treatment units and risk of contamination from oil tank leakages from those located in areas of high groundwater vulnerability across the county.

### 5.7.9 Data Gaps/difficulties

Human health data for the Plan area is not easily available. However, impacts on human health and quality of life may be derived from any of the environmental parameters. Ultimately, all the effects of a development on the environment impinge upon human beings and their quality of life, both positively and negatively. Direct effects relate to matters such as water and air quality, noise, and landscape change. Indirect effects relate to such matters as flora and fauna. Accordingly, the topic of human beings and their quality of life are addressed in this Environmental Report by means of an appraisal of the indirect effects of the Plan on the other environment parameters, of which human beings and their quality of life are an integral part. Where appropriate, mitigation measures to reduce/avoid adverse impacts are identified and incorporated into this Report and the Plan under the other environmental parameters.



**5.7.10 Effects of Not Implementing the Plan**

In the absence of the Clare County Development there would not be a localised framework within which to regulate, aid and/or control development whether economic, social or environmental. A lack of controlled development could lead to pressure on adequate service provisions and infrastructural facilities, thus affecting the natural environment in which the population lives leading to human health and quality of life issues. In the absence of an agreed target population and appropriate zoning of settlement land all of the environmental parameters would be adversely affected to varying degrees.

In the absence of the Plan, the process for assessing the issues which affect all of the inhabitants within the Plan area will go unchecked, resulting in deterioration in the environment and lack of critical capital expenditure in terms of targeted infrastructural development and employment opportunities. The required population target will not be provided for by an adequate level of service provisions and the environmental consequences would be both deleterious and undesirable.

To properly plan for the sustainable development of the Plan area, it is essential to be aware of the population for whom the Plan area will cater. The assigned target population of 31,956 to 2020 must be considered when formulating objectives and policies for the settlements in the Plan area. In assessing demographic projections, cognisance has been taken of the impact of population projections on housing, education and workforce. In the absence of the Plan, Core Strategy and population targets; infrastructure, including services and housing provision would not be catered for accurately. Issues affecting the current population in addition to the population increase may not be realised and could result in deterioration of the environment and mismanaged resources.

However, considerable environmental protection would remain due to the implementation of the Clare County Development Plan 2023-2029 and its policies and objectives relating to the environment.

**5.7.11 Inter-relationship/actions with other environmental parameters**

Issues relating to population, human health and quality of life are inter-related with all the environmental parameters and this is reflected by their consideration within the baseline for each one within this chapter.

|      | CC | BFF | SG | W | AN | L | CH | MAT | MAW | MAWS | MAWW | MARE |
|------|----|-----|----|---|----|---|----|-----|-----|------|------|------|
| *PHH | √  | √   | √  | √ | √  | √ | √  | √   | √   | √    | √    | √    |

(PHH = Population and Human Health; CC = Climate Change; BFF = Biodiversity, Flora and Fauna; SG = Soil and Geology; W = Water; AN = Air and Noise; L = Landscape; CH = Cultural Heritage; MA = Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Waste Water; (MA)RE = Renewable Energy;)

**5.7.12 SEA Recommendations\***

\*Refer to Chapter 11 for full details on recommendations

| SEA Recommendations – Population, Human Health and Quality of Life   | Inclusion in Plan   |
|--|---|
| A definition for social inclusion should be included within the Plan, which should read as “Social inclusion refers to a series of positive actions to achieve equality of access to services and goods, to assist all individuals to participation in their | While this definition has not been included in the Plan, Social Inclusion has been addressed and included as follows; |

|  |   |
|--|---|
| <p>community and society, to encourage the contribution of all persons to social and cultural life and to be aware of and to challenge all forms of discrimination. Social inclusion seeks the creation of an inclusive and fair society, combating inequality, social exclusion and poverty”.</p>   | <p>Goal X &amp; IX, CDP Objectives 10.2, 10.5 and 10.10. In addition, social inclusion is addressed in Sections 8.2.7 and 10.5.</p>   |
| <p>Radon is the leading cause of lung cancer after smoking in Ireland.</p> <p>The plan should encourage households to carry out testing in particular where they are located within an area identified as being above the reference level as per Figure 5.7.6. Any applications for housing should be made aware at a pre-planning stage of their location in terms of radon levels.</p>   | <p>This is addressed through the application of CDP Objective 5.17 with respect to Radon.</p>   |
| <p>An integrated approach to the future growth of the Plan area, which incorporates resilience to climate change through the implementation of the necessary mitigation and adaptation measures, needs to be adopted to ensure that it provides for a local population that can grow in a safe and healthy environment with the opportunities to live, work and from a human health perspective recreate within reasonable distance and have access to community needs and services. In doing so to minimise impacts on human health, maintain and improve quality of life through the protection of all facets of the environment, for example in provision of adequate infrastructure, flood management, sustainable transport, provision of necessary health services, building design etc.</p> | <p>A fully integrated approach has been adopted across the Plan through the greater inclusion of areas zoned as buffer space in response to Climate Change. Approximately 511.1 hectares have been zoned as buffer space in the new CDP 2023-2029. This is different to Open Space in that it is to specifically address the response to the Climate and Biodiversity crises and doesn't permit any type of development within this area. It is to allow for climate resilience and climate adaptation where the zoning is incorporated along the riparian zone of rivers and streams. In other areas it is to specifically address the protection of ecological corridors etc.</p> |
| <p>Noise is the second greatest environmental cause of health problems, after air quality.</p> <p>Where residential developments are to be located near or adjacent to a major road, any scheme should incorporate acoustical planning in the design, e.g. an integrated buffer to allow for sound minimisation to be provided through planting and necessary noise minimising landscaping measures and traffic calming measures.</p>  | <p>This is addressed through the inclusion of CDP Objective 11.40.</p>  |
| <p>Ireland's green spaces (parks, woods, countryside) and blue spaces (rivers, lakes and coastlines) are valuable natural assets with clear health benefits. We need to ensure protection of green and blue spaces and to encourage the provision of access to both for all members of society to ensure human health is not negatively impacted.</p>  | <p>This is addressed through the inclusion of CDP Objectives 15.12, 15.13, 15.14, 15.16 &amp; 15.30 in addition to Section 5.2.14 Green Infrastructure in Residential Development and Development Management Guidelines on OpenSpace in the CDP.</p>  |

All other sections in this chapter have taken into consideration Population, Human Health and Quality of Life.

## 5.8 Soil and Geology

### 5.8.1 Introduction

This section presents soils and geology which is defined as ‘all natural materials underlying a development, from the ground surface to an appropriate depth underground’. This includes bedrock, subsoils, topsoils and geological features such as karst, peat sequences and areas of geological interest.

The Intergovernmental Panel on Climate Change (IPCC) deals with mitigation of climate change through Working Group III,<sup>23</sup> which has concluded that land use, including agriculture and forestry, plays a central role for food security and sustainable development. The IPCC is currently preparing the Sixth Assessment Report (AR6) which was scheduled to be finalised in 2021.

Infrastructure (including housing), agriculture and forestry all compete for land and Ireland faces the challenge of availability of land considering policies to increase afforestation and agricultural production alongside expansion of housing and infrastructure for a growing population.

Given the strategic nature of the Clare RES, focus of the baseline for soils and geology is at a county level and the key issues relate to:

- Balancing competing land uses with regional growth;
- Quarrying and extraction of mineral resources;
- Intended and unintended land use change;
- Inappropriate agricultural and forestry activities;
- Loss of prime agricultural land for development;
- Erosion of soils;
- Long-term strategy for the transition from peat extraction towards a natural asset-based rural economy;
- Spread of invasive species;
- Soil pollution;
- Effects on geomorphology (i.e. landforms and river channels);
- Sealing of soils; and
- Increase in extent of built-up areas/ urbanisation.

The potential for disturbance of soils during infrastructural development can lead to the loss of soils along with compaction of soils due to operations of heavy machinery. Loss of soils and sediment to water courses can lead to sediment issues such as an increase in suspended solids, which can impact on water quality.

### 5.8.2 Soils

Soil is a valuable resource that performs many ecosystem services: production of food; production of biomass; storage, filtration and transformation of nutrients and water; carbon storage and cycling;

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<sup>23</sup> Agriculture, Forestry and Other Landuse (AFOLU): Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

and contributes to the landscape and cultural environment. 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.

Despite the importance of soil, there is little in the way of direct EU or national legislation obliging Ireland to maintain soil quality however, indirectly, issues such as contaminated land have been dealt with through other legislation (e.g., waste, major accidents, and hazards). A Thematic Strategy for Soil Protection and a Soil Framework Directive had been produced by the EU; however, the proposed Soil Framework Directive for Soils was strongly blocked by five member states of the EU and the proposal was withdrawn in 2014.

Following withdrawal of the legislative proposal for a Soil Framework Directive a Commission Expert group was established to implement how soil quality issues could be addressed using a targeted and risk-based approach within a legal framework. Therefore, currently at EU level there is no overarching framework that defines policy priorities or parameters for soil protection. In the absence of a dedicated legislative framework, EU soil protection policy is shaped by the EU Soil Thematic Strategy.

The Eight Environment Action Program (EAP) which will guide European environmental policy until 2030 has acknowledged that land degradation of soil is a global concern. The proposal for the 8<sup>th</sup> EAP builds on the European Green Deal and the newly adopted EU Biodiversity Strategy for 2030 which includes a number of elements for soil protection such as identification of contaminated sites, restoring degraded soils and improving the monitoring of soil quality. In addition, the Commission will adopt in 2021, The Zero Pollution Action Plan for Air, Water and Soil.

Soil Health and Food form one of the EU Missions which are commitments that will contribute to the goals of the European Green Deal. The Soil Health and Food Mission has set a target for 2030 that at least 75% of all soils in the EU are healthy or show a significant improvement towards meeting accepted thresholds of indicators.

The quality of soils in Ireland is considered generally good although there are pressures impacting on its long-term protection and maintenance particularly from land use/ land cover changes, intensification of use and urbanisation. In Ireland, some soil protection legislation has been enacted including the 2011 EIA Regulations for On Farm Development which includes a requirement for EIA of soil operations such as soil drainage and screening by the Department of Agriculture, Food and the Marine is required where drainage works exceed 15 hectares.

National Soils and subsoils maps were created by the Spatial Analysis Unit, Teagasc established in 1998. The project was completed in May 2006 and was a collaboration between Teagasc, Geological Survey of Ireland (GSI), Irish Forest Service (IFS) and the EPA. The most recent soil map, which is was a progression from the original national soil survey, was published in 2014 as part of the Irish Soils Information System (SIS) which was cofounded by the EPA and Teagasc in 2008. The SIS project built on the original county surveys and involved extensive sampling to obtain field data for counties not previously covered by the National Soil Survey. The overall objective of the project was to produce soil map of Ireland at a scale of 1:250,000 with an associated web-based soil information system in the public domain.

The IFS soil database has seven classes of soil groups which describe the hydrological properties of the soil types: Deep, well-drained mineral, Shallow well-drained mineral, Deep Poorly drained mineral, Shallow Poorly drained mineral, Poorly drained mineral soils with peaty topsoil, Alluvia, Peats and Miscellaneous. All soil types belong to one of the 11 Great Soil Groups. The soils map for Clare, **Figure 5.8.1**, illustrates the distribution of soil types within County Clare and the general properties of the main soil groups found are set out in **Table 5.8.1**.



Table 5.8.1 Soil Groups in Co.Clare

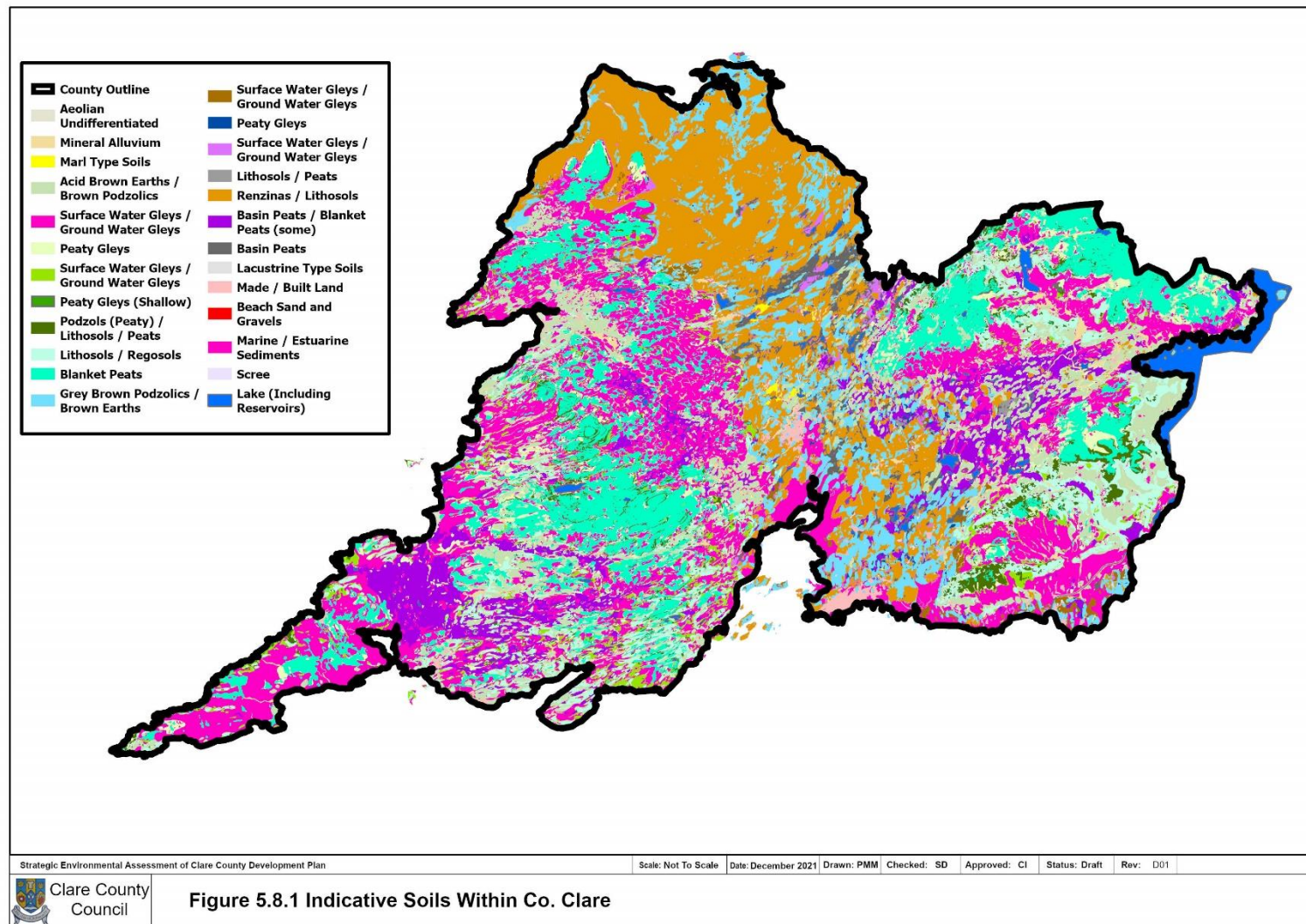
| Soil Description   | Code   | Included Soil Group                    | Characteristics  |
|--|--------|--|--|
| <b>Deep Well Drained Mineral</b>                           |        |  |  |
| <b>Derived from mainly non-calcareous parent materials</b> | AminDW | Acid Brown Earths,                     | Most occur on lime deficient parent materials, therefore acidic in nature, relatively mature and well drained.               |
|  |        | Brown Podzolics                        | Good physical characteristics  |
| <b>Derived from mainly calcareous parent materials</b>     | BminDW | Grey brown podzolics,                  | Usually formed from calcareous parent material which counteracts the effects of leaching, can be light to heavy textured     |
|  |        | Brown Earths (medium-high base status) | Most occur on lime-deficient parent materials, therefore acidic in nature, relatively mature and well drained                |
| <b>Shallow Well Drained Mineral</b>                        |        |  |  |
| <b>Derived from mainly non-calcareous parent materials</b> | AminSW | Lithosols                              | Skeletal stony soils usually overlying solid or shattered bedrock, use limited to rough grazing and forestry.                |
|  |        | Regosols                               | Present at Seafield, unconsolidated soil with a high pH and exposure to Atlantic Winds                                       |
| <b>Derived from mainly calcareous parent materials</b>     | BminSW | Rendzinas                              | Shallow soils, usually no more than 50cm depth, usually derived from limestone parent material, use limited by shallow depth |

|  |          |  |   |
|--|----------|--|---|
|  |          | Lithosols                              | Skeletal stony soils usually overlying solid or shattered bedrock, use limited to rough grazing and forestry, formed directly from calcareous bedrock             |
| <b>Deep Poorly Drained Mineral</b>                         |          |  |   |
| <b>Derived from mainly non-calcareous parent materials</b> | AminPD   | Surface water Gleys, Groundwater Gleys | Developed under the influence of permanent or intermittent waterlogging, impervious with poor physical structure, unsuitable for cultivation or intensive grazing |
| <b>Derived from mainly calcareous parent materials</b>     | BminPD   | Rendzinas                              | Shallow soils, usually no more than 50cm depth, usually derived from limestone parent material, use limited by shallow depth                                      |
|  |          | Lithosols                              | Skeletal stony soils usually overlying solid or shattered bedrock, use limited to rough grazing and forestry, formed directly from calcareous bedrock             |
| <b>Shallow Poorly Drained Mineral</b>                      |          |  |   |
| <b>Derived from mainly calcareous parent materials</b>     | BminSP   | Surface water Gleys, Groundwater Gleys | Soils which have developed under water-logging conditions. Where the gley results from a high water table the soil is referred to as a groundwater gley.          |
| <b>Peaty poorly drained mineral</b>                        |          |  |   |
| <b>Derived from mainly non-calcareous parent materials</b> | AminPDTP | Peaty Gleys                            | Gleys with significant peat development on the surface  |
| <b>Shallow, rocky, peaty/non-peaty mineral complexes</b>   |          |  |   |

|   |          |                                   |  |
|---|----------|-----------------------------------|--|
| <b>Derived from non-calcareous rock or gravels with/without peaty surface horizon</b> | AminSPRT | Podzols (peaty), Lithosols, Peats | Podzols develop at higher elevations, generally poor degraded soils. |
|---|----------|-----------------------------------|--|

**Source: Spatial Analysis Group, Teagasc, EPA Soil and Subsoil Mapping Project, 2006**

Figure 5.8.1 Indicative Soils within Co. Clare



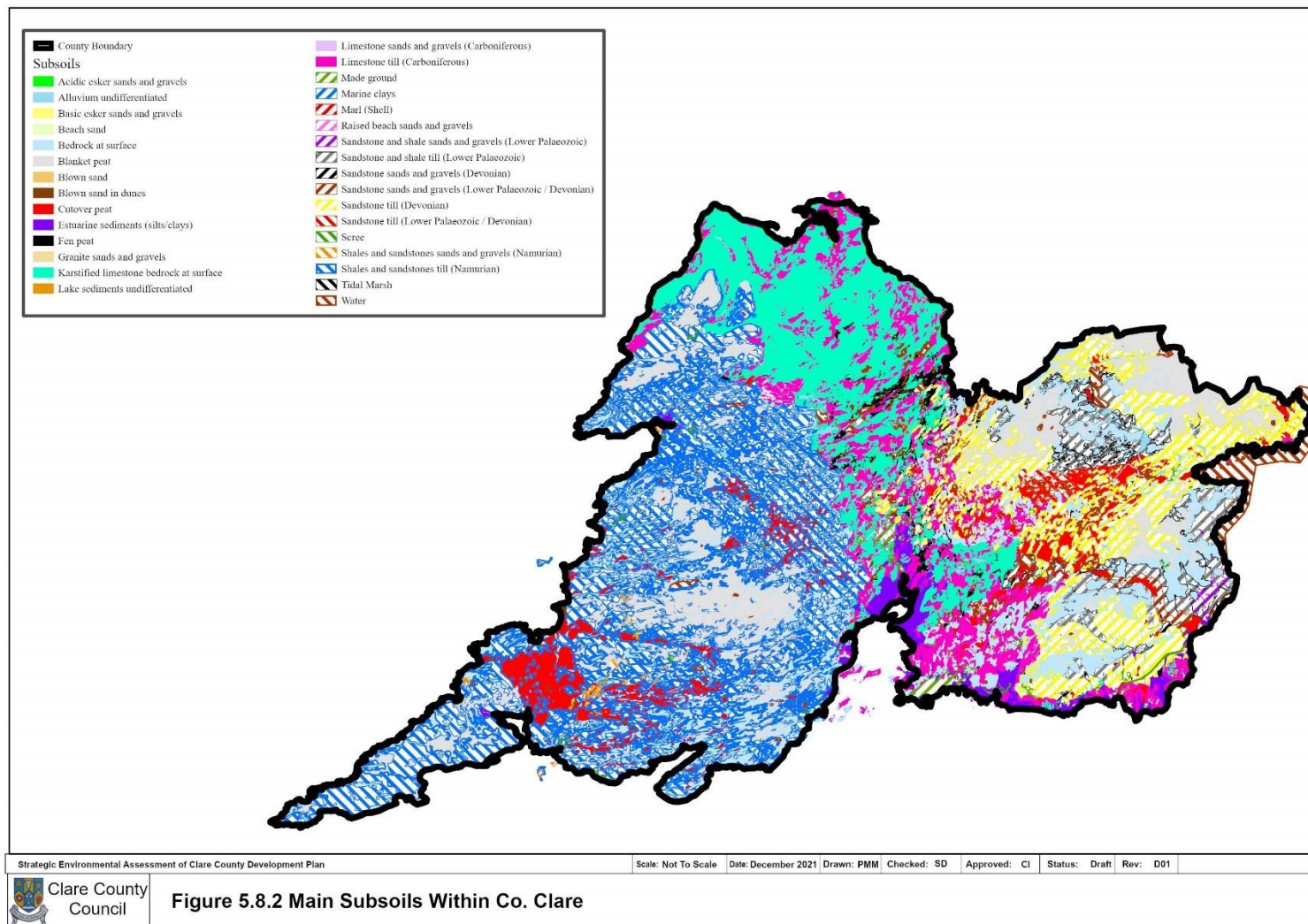
The subsoil parent material is that from which the subsoil is ultimately derived; the character of the underlying bedrock and also the influence of the development of subsoil. Subsoils for the majority of the County are outlined in **Table 5.8.2**. The distribution of subsoil in Clare is shown in **Figure 5.8.2** “Main Sub Soils” and summarised in **Table 5.8.2**. The GSI have also mapped subsoil permeability from low to moderate to high and this data is available to view on the GSI’s online spatial resources viewer.

**Table 5.8.2 Parent material Characteristics of the Main Subsoils in the Plan Area**

| <b>Subsoil Parent Material</b>                                    | <b>Description</b>   |
|---|--|
| Alluvium  | Undifferentiated sediments – usually by watercourses. Marl sediments also present in the north of the plan area.   |
| Peat  | Fen peats mainly in the east of the plan area. Blanket peat widespread over the western part of the County.  |
| Sands and Gravels   | Subsoils derived variously from Lower-Palaeozoic to Carboniferous shales, sandstones, limestones and granites  |
| Scree   | Collections of broken rock fragments usually found at the bases of hills and mountains   |
| Tills   | Limestone tills throughout and also some sandstone derived tills in the north of the plan area.  |
| Gravels   | Deposits of gravels derived from Namurian sandstones and shales are present at the south of the County.  |
| Karst Rock – in some cases the rock can be at or near the surface | Limestone bedrock is throughout the plan area with several limestone bedrock formations present with varying degrees of karstification. In many areas there are shallow soils with bedrock at or near the surface. |
| Aeolian Sediments   | Wind-blown sediments including sand and dunes  |
| Lacustrine Sediments  | Comprised of undifferentiated lake sediments   |
| Marine Deposits   | Material derived from marine and estuary clays, silts, sands, gravels and marls.   |
| Urban   | Made-up ground of an artificial nature. Predominantly at the centre of the plan area at Ennis and denotes development areas.   |

Source: Geological Survey of Ireland, Quaternary Geology Mappin

**Figure 5.8.2 Main Subsoils within Co. Clare**





### 5.8.3 Soil and Climate Change

Significant changes to soil condition can be brought about by the impacts of climate change including changes in air temperature, precipitation and extreme weather events - increased occurrence of summer droughts and increased winter rainfall. The potential impacts of these weather changes are likely to be experienced most significantly in relation to agriculture, peatland areas and forestry areas as well as increasing the potential for flood risk. In addition to potential effects on soil condition, dryer summers (likely to be experienced more in the east of the country) would require irrigation of crops during summer months thus requiring necessary infrastructural investment to store winter rain. The drying out of soils in response to climate change could result in deterioration of soil quality and soil moisture levels. In wetter western areas, within which the Plan area lies, increased rainfall could cause increased soil erosion. Generally, a combination of dry summers and wet winters could also result in subsidence and soil heave.

Soil comprises for the most part of organic matter, minerals and fine to coarse grained weathered rock. The variability of the constituent parts and the percentage content of each in the soil matrix results in differing characteristics. Soil is a complex mixture of weathered minerals, living organisms, organic matter in various stages of decomposition, gases and water. Numerous natural factors influence the composition of soils, notably bedrock, climate and topography.

Soils have a number of functions including supporting plant life and life within the soil, biogeochemical cycling of elements, energy cycles, water storage and exchange and ecosystem productivity. Soil formation occurs over very long timescales and can be considered a non-renewable resource.

**Bogs and Peatlands:** The Irish climate is conducive to the widespread development of bogs of different types ranging from the blanket bogs in the west to the raised bogs in the midlands. The biodiversity supported by the different bog types varies considerably and, in many cases, make them unique within Europe. Active bogs play an important role in combating climate change by removing excess carbon dioxide from the air and placing it into long term storage for thousands of years. Bogs also provide other ecosystem services, such as attenuation of flooding.

The National Peatlands Strategy, 2015-2025, is the national plan responsible for management and conservation of peatland following changes in management of land following large scale erosion in blanket and raised bogs in Ireland. Currently feedback is being sought for the mid-term review of the strategy to refocus it in line with its overall goals and the current context.

Bord na Móna is the semi-state company with the aim of developing peatland for economic use, including electricity generation, for which peat remains part of the fuel mix in Ireland. In Ireland as a whole, one power plants currently fires 100% peat – the Bord na Móna power plant at Edenderry (Co. Offaly). The last peat burning ESB power station at Lough Ree ceased production in December 2020. The government subsidy for peat burning Edenderry ended in 2016. The government has since introduced a new subsidy which will allow the continued burning of peat alongside the co-firing of at least 30% wood biomass.

**Section 5.6.12** discusses the management of raised bogs under the National Raised Bog SAC Management Plan 2017-2022 and the identifies the raised bogs designated as NHA's and SAC's within County Clare.

#### **5.8.4 Geology**

The bedrock geology of County Clare is shown in **Figure 5.8.3**. The western area of County Clare consists of Namurian sandstone and shale which are sedimentary rocks. Marine shelf facies stretch from the north of Clare, through the centre of the county, down to the southern centre of the county and also into the east – the last glaciation event carved into these deposits which now form the limestone pavements making up the Burren landscape. The south of Clare also contains three small areas of Waulsortian mudbank deposits. The east of the county consists of three corridors and four small areas of Waulsortian mudbank. In addition, there are two patches of marine shelf facies, two corridors and six patches of Courcayan limestone, two large and two small areas of Upper Devonian to Lower Carboniferous Old Red Sandstone, five areas of Silurian sandstone/greywacke/ shale, two small areas of Mid to Upper Ordovician acid volcanics, two small areas of marine shelf facies, two small areas of Mid to Upper Ordovician slate, one small area of Carboniferous volcanics and minor intrusions and three corridors and three small areas of lower limestone shale.

The rocks in general decrease in age from west to east – early Ordovician volcanic activity was followed by Silurian marine sediment deposition in the west, followed by deposition of sandstones during the Devonian when sea levels dropped. Extensive deepwater limestones were deposited during the Carboniferous mostly to the north and centre of County Clare, which today forms the limestone pavements and karstic features of the Burren landscape. This limestone deposition was followed by gradation to shallower seas with the west of Clare characterised by river and delta deposits during the latter part of the Carboniferous.

**Geological Heritage:** The Geological heritage county audit for Co. Clare was completed in 2005. There are 45 sites of geological importance within County Clare, which include cave systems, limestone pavements and mushroom stones. The Geological Survey of Ireland (GSI) has identified some of these areas as County Geological Sites (CGS-surveyed and audited sites) as part of their Irish Geological Heritage Programme and this data is available to view on the GSI's online spatial resources viewer. There are also areas of geological heritage interest in Co. Clare that have not yet been surveyed- therefore their location is approximate and the GSI have a buffer has been applied to each (unaudited sites). The Geological Sites which have been identified in County Clare are illustrated in **Figure 5.8.4** The Irish Geological Heritage Programme identifies and selects the most significant CGS which will be recommended for designation as NHAs in the future.

Figure 5.8.3 Bedrock Geology of County Clare

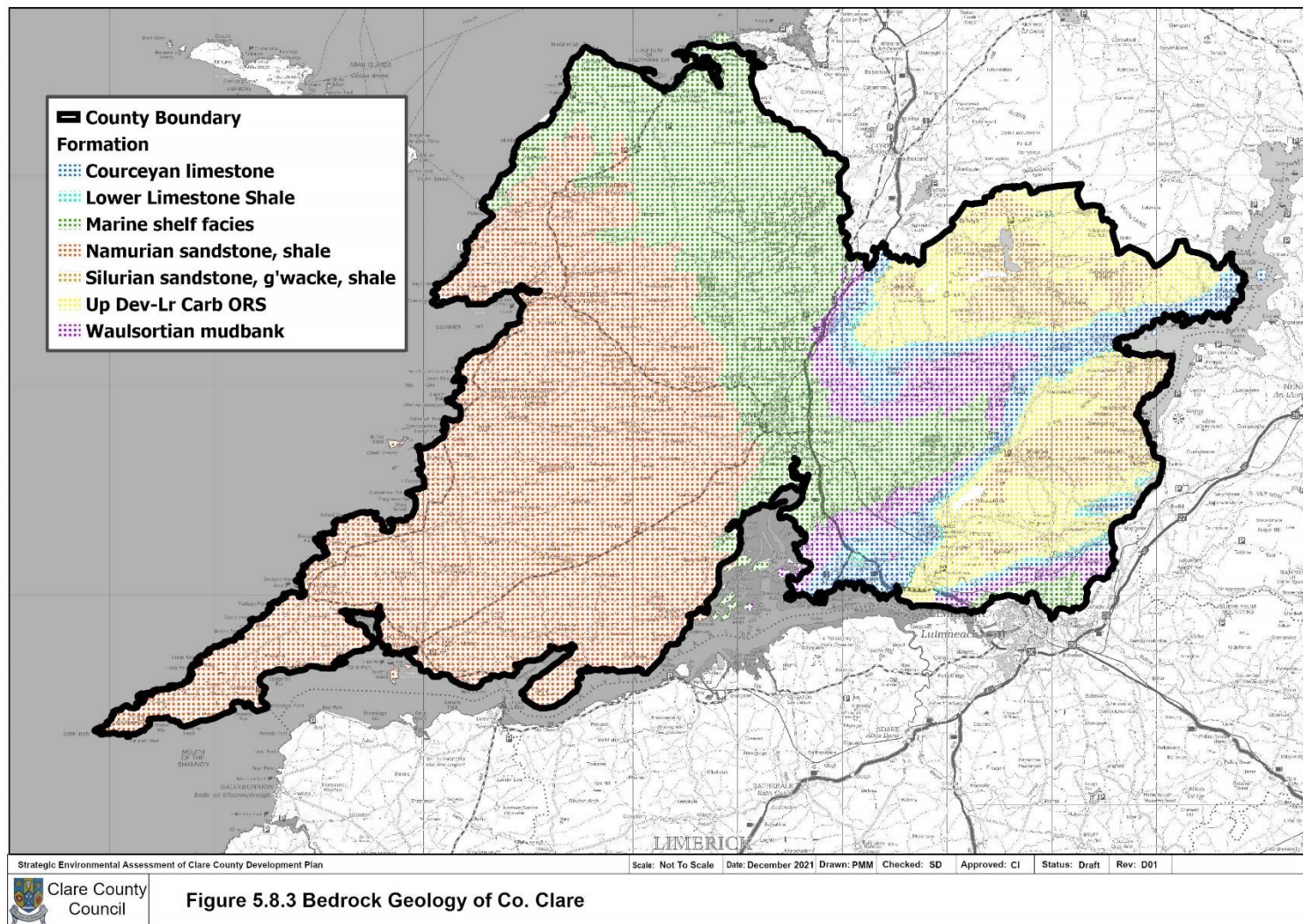
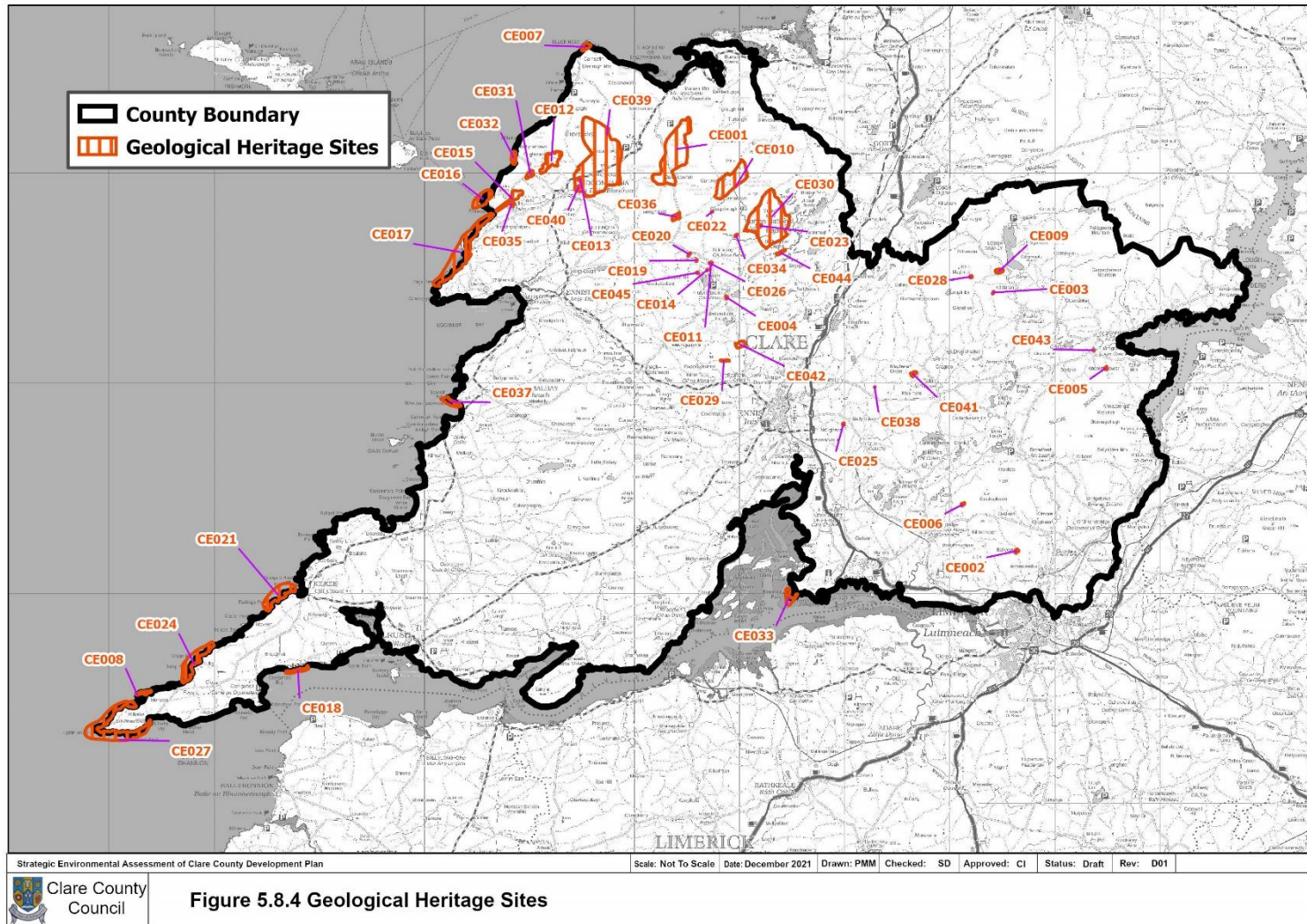




Figure 5.8.4 Geological Heritage Sites



### 5.8.5 Quarrying, Minerals & Aggregates

There are reasonable reserves of extractable natural resources within County Clare, particularly limestone rock. Section 261 of the Planning and Development Act 2000 (as amended) provides for the registration and control of quarries. The Quarry and Ancillary Activity Guidelines for Planning Authorities 2004 (Department of the Environment, Heritage and Local Government) is a useful guide when assessing applications for quarry developments.

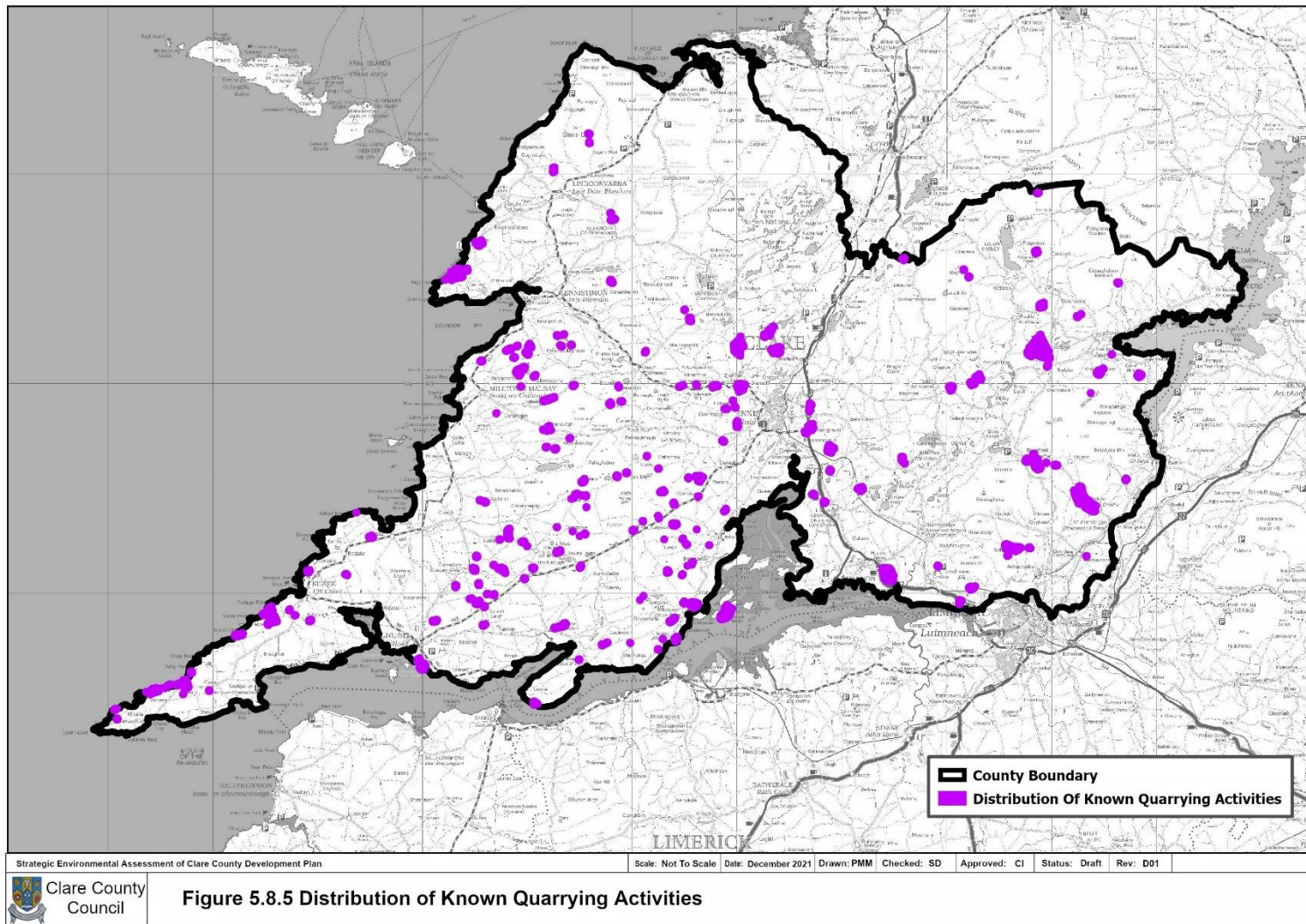
According to the Extractive Industries Register maintained by the EPA under the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (S.I. No. 56 of 2009), there are 205 extractive industries in the County (including quarrying, commercial peat extraction and timber production). The GSI's online spatial resources viewer indicates that 13 quarries were reported as active in County Clare.

Unlike most other forms of development, minerals can only be worked where they are found. This means that the spatial distribution of mineral resources and thus the potential for workings is dictated by geological considerations and not by the demands of human geography. The GSI Minerals Section began a programme of mapping of "Aggregate Potential" on a county-by-county basis. This data is available to view on the GSI's online spatial resources viewer. The data is available nationwide and covers crushed rock aggregate potential as well as granular potential. The data indicates that there is high to very high crushed rock aggregate potential across Mid Clare and in the vicinity of Ennis. There is a smaller amount of granular rock aggregate potential, with very high potential concentrated in the Cooraclare region of southwest Clare.

**Figure 5.8.5** illustrates the distribution of active quarries and mineral localities in the County



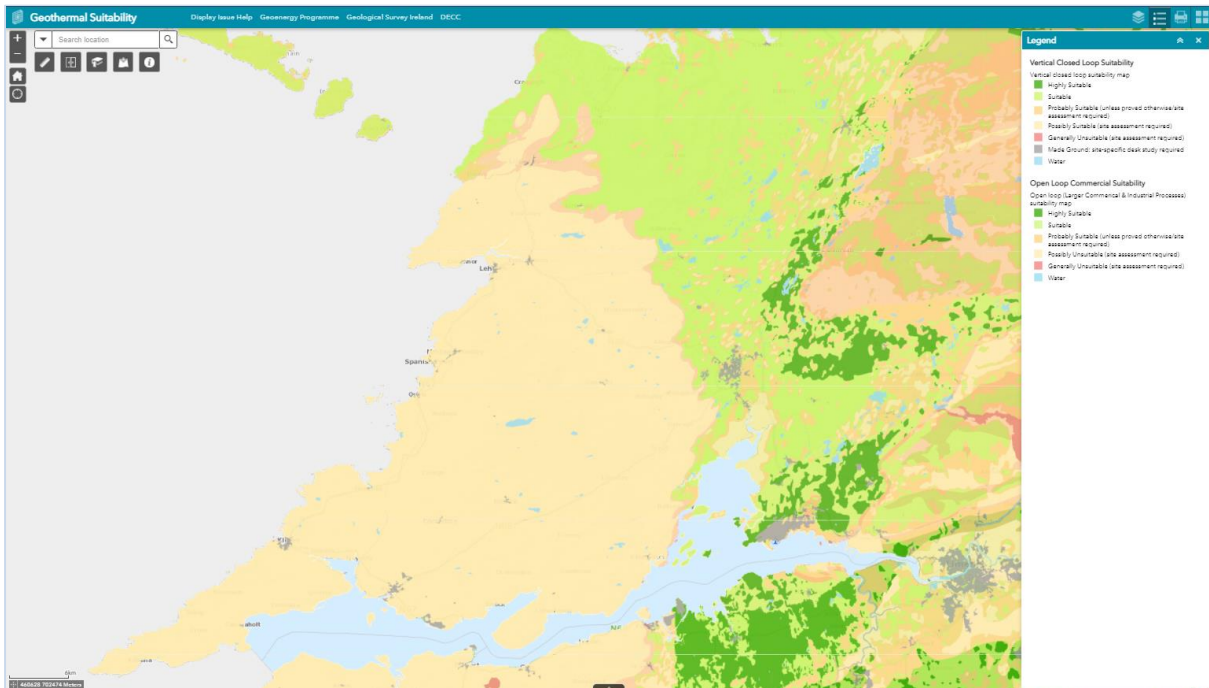
Figure 5.8.5 Quarries & Mineral localities within County Clare





**Geothermal Energy:** The Geological Society of Ireland (GSI) have produced a national shallow geothermal energy resource map which enables informed decision making and preliminary site suitability assessments. The map and database was developed to meet the limited national, geological information relating to geothermal energy. The mapping indicates that the northeast of the County is suitable for vertical closed loop geothermal technology and open loop commercial technology (see **Figure 5.8.6**).

**Figure 5.8.6 Geothermal Suitability within County Clare**



Source: GSI Geothermal Suitability Viewer  
<https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

### 5.8.6 Geohazards

**Landslides:** Ireland is fortunate not to be a high-risk area for landslides, though landslides do occur, however infrequently, with the most occurrences in coastal, upland and peat bog areas. Though the potential for major destructive landslides is slight, there have been instances of severe events in Ireland in the past. As of early 2021, the GSI has recorded 1,907 landslide events in nationally, of which 726 have been verified. Within County Clare 7 landslide events have been recorded.

The GSI Irish Landslides Working Group (ILWG) has also compiled a landslide susceptibility database in order to assess the scale of the landslide problem historically and also to assess the susceptibility of areas to landslide hazard in the future. This has direct relevance to the sustainable development of the landscape in terms of housing, infrastructure etc. and is therefore an important issue for the planning process. This national landslide susceptibility mapping was completed between 2007- 2016. The majority of the County is classed as having ‘Low’ landslide susceptibility. The data indicates that risk increases to ‘Moderately High’ and ‘High’ in more upland’s areas, notably Slieve Callan west of Ennis and Mahera to the west of Lough Graney. There are also areas of High susceptibility in the northern region such as at Gleninagh and Moneen Mountains.

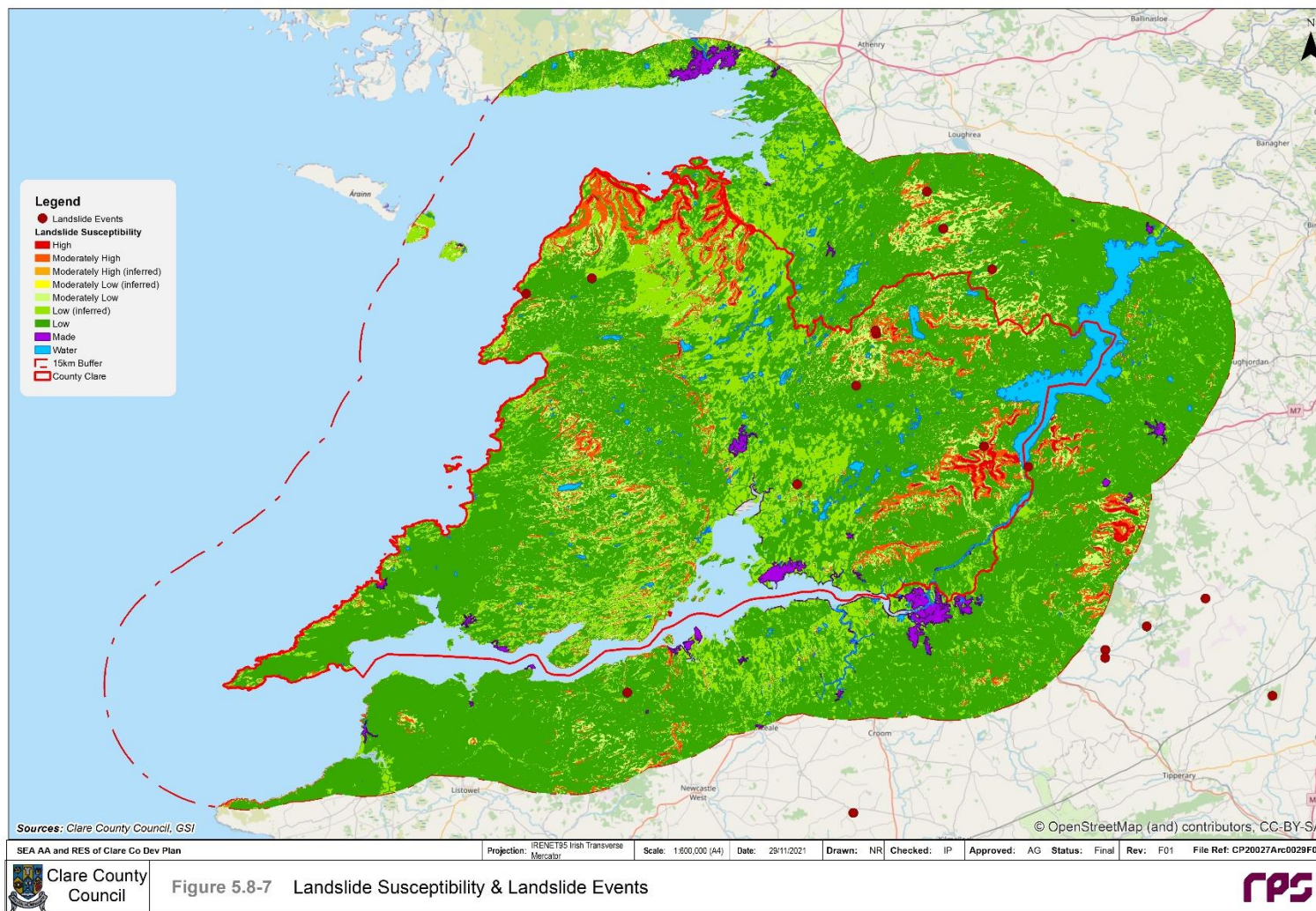
The potential implications of climate change to impact on landslide risk (increased risk of slope instability as a result of changes in seasonal rainfall i.e. the occurrence of heavy rainfall) have been assessed as part of the EPA’s Critical Infrastructure Vulnerability to Climate Change (CIViC) project<sup>24</sup>. The findings concluded that the risk from landslides is likely to increase for roads in the west of the country, if no soil reinforcement techniques are put in place.

**Figure 5.8.7** illustrates the landslide susceptibility and recorded landslide events within County Clare.

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<sup>24</sup> EPA Research programme 2021-2030: CIViC: Critical Infrastructure Vulnerability to Climate Change, Report No.369

Figure 5.8.7 Landslide Susceptibility & Landslide Events



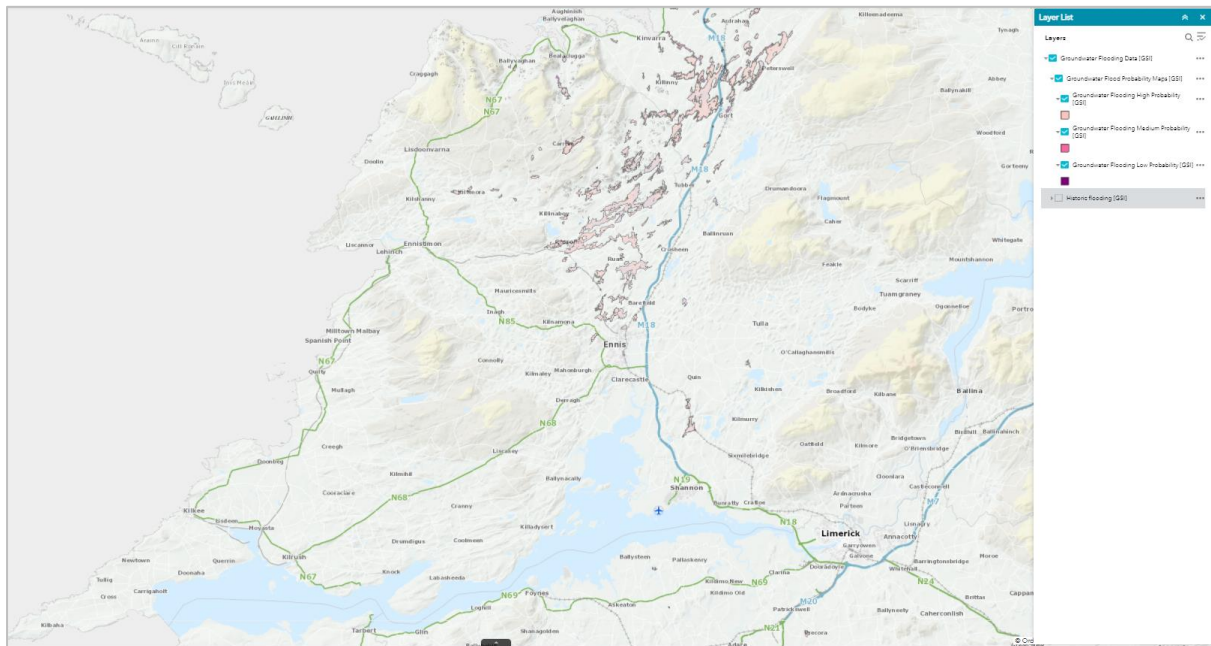
**Groundwater Flooding:** Groundwater flooding can also be a serious issue and occurs when the water table rises above the level of the land, which results from the natural subsurface drainage system being unable to drain away rainfall quickly enough. In Ireland, the most extensive form of groundwater flooding is related to prolonged rainfall causing water table rise in the limestone lowland areas in the west of the country. Following the most significant groundwater flooding event to have occurred in Ireland over the winter of 2015/2016, the GSI in collaboration with Trinity College Dublin and Carlow Institute of Technology undertook the GWflood Project. It aims to help fill the data gaps around understanding the issue of groundwater flooding with the outputs being a project report plus a national data viewer showing historic and predictive groundwater flood maps, as well as live groundwater hydrometric data. The GSI's Groundwater Flooding Data Viewer shows the probabilistic flood extent of groundwater flooding in limestone regions.

The Groundwater Flood Probability Maps show a High Probability of Groundwater Flooding at the north of the County within the limestone pavements making up the Burren landscape and in the vicinity of Dromore Woods and Lough (see **Figure 5.8.8**).

**Coastal Vulnerability:** The Marine and Coastal Unit of the GSI participates in coastal vulnerability mapping and coastal erosion mapping as part their CHERISH programme (Climate, Heritage and Environments of Reefs, Islands and Headlands). To date the Clare coast has not yet been mapped as part of the Coastal Vulnerability Index initiative which at present provides maps from north Co. Louth to Co. Wexford.

INFOMAR, Ireland's national marine mapping programme, which is jointly managed by the GSI and the Marine Institute, provides key baseline data for Ireland's marine sector. Geohazards such as shipwrecks and underwater canyons and cliffs are mapped. One shipwreck is identified approx. 2.5km southwest offshore from the Clare coast at Doonaha. Sub-bottom profile coverage is available to download from the coast of Lisdoonvarna southwards to Kildysart. Sediment classification is also available with the marine sediment environment off the County Clare coast comprising mud to muddy sand at the north, sand and coarse sediment off the mid Clare coast and rock, sand, and mixed sediment off the south Clare coast.



**Figure 5.8.8 Groundwater Flooding Probability**

Source: GSI Groundwater Flooding Data Viewer  
<https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc>

### 5.8.6 Landfill

The landfill site at Doora is closed and no further waste activity is permitted on the site. It has been decommissioned and rehabilitated and is currently in recreational use. There is ongoing environmental monitoring at various locations throughout the site, a leachate tank for the collection of leachate runoff and a Flare for the burning of gases that accumulate on site. There are no active landfill sites within the Plan area.

Landfilling at Ballydugff Beg, Inagh commenced in 2002 and ceased in 2011. At the end of 2020 consultants were appointed to develop the design for the for the capping of the landfill with the potential for works to commence in the summer of 2021. The site currently operates as a civic amenity site and as of 2020 accepted small quantities of municipal waste which is removed off site. A composting facility was developed in 2006. There is ongoing environmental monitoring for groundwater at various locations throughout the site.

### 5.8.7 Contaminated Sites

Currently there is no specific legislation addressing contaminated land in Ireland and to date numerous approaches to the problem, including the ad hoc application of standards and methodologies from other countries, have been applied. In contrast to the UK, historical industrial development within the Republic of Ireland has been restricted primarily to the main port cities. Therefore, land affected by contamination is less widespread and is related primarily to unregulated disposal of waste, agricultural practices and point source releases to ground from discrete sites.

There is no statutory definition of “Contaminated Land” within Ireland, and the term is generally used to refer to all land affected by land contamination. The issue of contamination is covered in several

existing legislative acts, which are focused primarily on ensuring prevention of pollution from ongoing activities rather than driving clean up from historical use. To date, remedial action with respect to contaminated soils has been driven by the planning and development process and more recently by the requirement for local authorities to identify and assess unregulated waste disposal sites.

The principles of risk assessment, including the concept of the source-pathway-receptor linkage, have been adopted by the Environmental Protection Agency (EPA) for the assessment of Environmental Liabilities and Unregulated Waste Disposal Sites. However, there remains no formalised approach to the assessment of risks to human health from contaminated soils or groundwater.

In April 2007, the EPA published a Code of Practice that provides a framework for the identification of contaminated sites, the assessment of the potential risks associated with them, and the identification of the appropriate remedial measures or corrective actions required to minimise risk to the environment and human health. Following the publication of the Code, the EPA trained local authority staff on its use and application. Local authorities are now implementing the Code and the EPA is overseeing its implementation; however, a list of contaminated sites is not centrally compiled. In 2013 a document titled ‘Guidance on the Management of Contaminated Land at EPA Licenced Sites’ was published. This guidance is a risk-based approach considered best practice for the assessment and remediation of contaminated land and groundwater at EPA licensed sites.

Hazardous waste in Ireland is generated by all sectors (industry, households, farms etc.). The EPA’s Hazardous Waste Management Plan (2014-2020) sets out the priorities for managing hazardous waste. The latest data indicates that the overall quantity of hazardous waste increased in 2019 compared to 2018, mainly due to an increase in incinerator ash and contaminated soil.<sup>25</sup>

Roche Ireland is an Industrial Emission (IE) licensed site which is scheduled to be demolished in June of 2021. Roche ceased onsite manufacturing activities in December 2019 and is planning to undertake site infrastructure demolition and remediation of specific areas of environmental concern (AEC) on the site, scheduled for the summer of 2021. The works will involve the demolition and removal of most buildings, structures and infrastructure currently within the site boundary fencing and the remediation of the identified AECs to return a brownfield site for future appropriate use.

There are 4 contaminated sites in the County Clare which were compiled as part of the Shannon International River Basin Management Plan. In relation to these sites, action has progressed through the IPPC and Codes of Practice licensing systems (for contaminated lands and landfills respectively). These sites are owned by Heraeus Metal Processing Ltd., UCB Manufacturing Ireland Ltd (formerly Schwarz Pharma Ltd), Shannonside Building Supplies Ltd and Electricity Supply Board (at Moneypoint).

The EU also has directive regarding the control of major accident hazards, commonly known as the Seveso III Directive (2012/18/EC). This was adopted and ratified into Irish law through the Control of Major Accident Hazards Involving Dangerous Substances (COMAH) Regulations 2015 (S.I. No. 209 of 2015). The Directive aims to prevent major accident hazards involving dangerous substances and chemicals and the limitation of their consequences for people and the environment. In conjunction with the Health and Safety Authority (HSA), it is policy for local authorities to implement the provisions

<sup>25</sup> EPA National Waste Statistics for Ireland: Key Trends, EPA Release 11<sup>th</sup> December 2020 [Accessed May 2021]: <https://www.epa.ie/nationalwastestatistics/hazardous/>

<sup>1</sup> EPA Annual Environmental Report, 2020: [http://www.epa.ie/licences/lic\\_eDMS/090151b2807b1799.pdf](http://www.epa.ie/licences/lic_eDMS/090151b2807b1799.pdf)



of the Seveso III Directive (2012/18/EU). Seveso sites are defined as industrial sites which, because of the presence of sufficient quantities of dangerous or hazardous substances, must be regulated under this EU directive. If there are planning applications for development occurring within a certain distance of the perimeter of a Seveso site, the HSA provides appropriate advice to the planning authorities in respect of development within a distance of these sites. Contaminated land requires appropriate remediation of the site prior to any development, ensuring there is no migration of contaminated material during remediation or measures to handle landfill gases. Seveso sites are categorised as Upper Tier or Lower Tier depending on the size of the site and the quantities of dangerous/hazardous material present. As of December 2020, the HSA lists that there are 50 Lower Tier Seveso sites and 49 Upper Tier Seveso sites in Ireland.<sup>26</sup> Of this 1 Lower Tier site is in County Clare; Eva Ireland in Shannon and there are 2 Upper Tier sites; the ESB power station at Moneypoint and the Shannon Airport Authority (the location of the Heraeus Metal Processing Ltd and UCB Manufacturing Ireland Ltd). However, the lack of heavy industry in Ireland means that Irish soils have not been subject of significant amounts of contamination; the ubiquity of permanent pasture affords a level of protection from soil degradation, with the exception of peatlands.<sup>27</sup>

#### 5.8.8 Issues and Threats in the Plan Area

Threats to soil and geology can materialise in the form of the actual loss or damage/disturbance of soil and bedrock. Soil loss occurs through the removal or compaction of soil during construction of developments, particularly on Greenfield sites. Soil disturbance through activities and practices associated with the supporting infrastructure for renewable energy projects such as access road construction, drainage works/dredging for new harbour facilities and cable laying etc, can result in a loss of vegetative cover thereby reducing soil stability that can lead to sediment run-off often into the aquatic environment. Dredging works in harbours have the potential to alter and/or geomorphological landforms.

Factors such as soil type, land slope and the degree of disturbance and indeed the quality and proper maintenance of effective measures used for the prevention of sediment run-off, can also produce an increased risk of nutrient run-off within the sediment itself.

The physical presence of sediment in an aquatic ecosystem can have damaging and even catastrophic effects to spawning beds and oxygen balancing regimes which are imperative for healthy fish populations, and other aquatic flora and fauna. Nutrients such as a phosphorus that is bound to soil, albeit sometimes poorly e.g. peat soils which are widespread over the western part of the County, becomes mobile through sedimentation which impacts the aquatic environment and causes further deterioration to water quality and aquatic habitats through eutrophication of rivers and lakes. If contaminated soils are eroded and transported to the sea, aquatic plants and animals can be severely damaged. Excavation of peat will result in carbon loss from the excavated peat and also in the areas affected by drainage.

Degradation of soils can cause loss of soil as well as ecological soil processes which would lead to a reduction in its production capacity as well as deplete soil quality and biodiversity.

<sup>26</sup>[https://www.hsa.ie/eng/Your\\_Industry/Chemicals/Legislation\\_Enforcement/COMAH/List\\_of\\_Establishments](https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/List_of_Establishments)

<sup>27</sup> EPA (2013) Environmental Indicators: Land & Soil Factsheet.

In terms of bedrock geology threats are present through construction – excavation of bedrock during earthwork operations for renewable energy infrastructure, restructuring of land without permission, etc. which can result in a loss of our geological heritage. These County Geological Sites (CGS) which are present in quite large areas at the northwest of the county (e.g., St. Brendan’s cave system and Carran enclosed depression) require protection and preservation from potential damage due to renewable energy development if they are not assessed as constraints.

The raw material demands of emerging renewable energy solutions will be met by a sustainable supply of extractable natural resources. Extraction ultimately leads to the total removal of a resource within a given area and can lead to localised environmental issues. Due to the nature of quarrying it can result in re-profiling of the landform which can have adverse visual impacts on the landscape and on scenic routes.

As a result of prolonged rainfall causing water table rise in the limestone lowland areas in the west of the county, County Clare is subjected to the most extensive groundwater flooding in the country. Groundwater flooding will have implications for RE infrastructural development.

The transferring of soil during construction works can facilitate the spread of invasive species whereby roots can be transferred from one location to another.

In north County Clare extensive deepwater limestones form a productive karstic aquifer and therefore better groundwater supplies making them more suitable for geothermal boreholes and open-loop Ground Source Heat Pumps, areas with high groundwater vulnerability and shallow soils may be unsuitable for a range of land activities and subsurface infrastructures related to other renewable technologies (e.g., wind turbines, solar farms, etc.), depending upon site specific conditions.

In summary the key issues for the draft Plan in relation to soils, land cover and geology therefore relate to:

- Increased competition for space from different sectors: RE, forestry, agriculture;
- Land use changes and land restructuring which may result in increased soil erosion and mobilised sediment into nearby watercourses;
- Loss of agricultural land/good quality soils (and any associated economic losses) to RE development, particularly solar farms;
- Loss of wetlands through changes in land use and new infrastructural developments;
- Potential for loss of peatlands through land drainage and reclamation for RE development, with knock-on impacts for climate change;
- Potential for disturbance to contaminated soil or historic sites from development and excavation works.
- Excess sediment run-off from RE infrastructure construction in aquatic ecosystems creating the potential to damage aquatic flora and fauna
- Changes or damage to geomorphological landforms as a result of drainage works/dredging for new harbour facilities
- Soil and/or vegetative cover loss or disturbance through the removal or compaction of soil during construction of RE infrastructure
- Degradation of soil quality and ecological processes

- Excavation of bedrock leading to removal of a natural resource
- Loss or damage to geological heritage
- Susceptibility of RE infrastructure to the risks of groundwater flooding

### 5.8.9 What would happen to Soil and Geology without the implementation of the Plan?

In the absence of the Plan the soils, geology and hydrogeology would continue in the same pattern. There is currently little in the way of direct EU or national legislation obliging Ireland to maintain soil quality.

Renewable developments may end up located in unsuitable areas with regards to the soils and geology of the area. Geothermal energy developments for example, need to be located away from karst areas or where there is an existing high groundwater vulnerability rating and a shallow soil profile (which are unable to accommodate subsurface structures), or where karst is located near the surface as there may be hydrological implications for groundwater. Developments should also be located away from significant peat or bog areas as these areas may be unstable from a technical perspective, or could be under designation

### 5.8.10 Data Gaps/difficulties

The following data gaps have been identified in terms of the assessment of soils and geology:

- The lack of a register of contaminated sites and associated mapping for the County with the associated risk of inadequate disposal measures of contaminated soils due to lack of information of contaminated sites.
- The absence of the previously proposed Soil Framework Directive for Soils poses a difficulty in that currently at EU level there is no overarching framework that defines policy priorities or parameters for soil protection.
- Unregulated extraction from unauthorised quarrying within the plan area.

### 5.8.11 Inter-relationships

There is a particularly strong inter-relationship between soil/geology and water, biodiversity and human health. A declining soil quality can lead to a decline in water and/or air quality.

|    | PHH | BFF | W | ACF | L | CH | MAT | MAW | MAWS | MAWW | MARE |
|----|-----|-----|---|-----|---|----|-----|-----|------|------|------|
| SG | √   | √   | √ | √   | √ | √  | √   | √   | √    | √    | √    |

(BFF = Biodiversity, Flora and Fauna; PHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Climatic Factors; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Waste Water; (MA)RE = Renewable Energy; CH =Cultural Heritage;

| <b>SEA Recommendations – Soil and Geology</b>  | <b>Inclusion in the Plan</b>                                   |
|--|--|
| Register and mapping of contaminated sites, including old petrol station sites to co-incide with the Plan objective for development of brown field sites to ensure due diligence, particularly in relation to soil and groundwater, on sites prior to development. | A specific objective has been included as CDP Objective 15.11. |



## 5.9 Air and Climate

### 5.9.1 Introduction

The quality of the air that we breathe is dependent upon the climate that we live in and the changes that are occurring and will continue to do so in the future. The pace at which this change occurs will be influenced by the management of our air quality, by means of compliance with regulations (statutory instruments) regarding the release of emissions into the atmosphere from such sources as vehicle emissions and fuel combustion.

### 5.9.2 Air Quality

Ireland has good air quality which is consistently rated among the best in Europe. This is due largely to the prevailing clean westerly airflow from the Atlantic and the relative absence of large cities and heavy industry. The Clean Air for Europe (CAFE) Directive (2008/50/EC) deals with each EU member state in terms of "zones" and "agglomerations" for managing air quality. For Ireland, four zones are defined in the Air Quality Standards Regulations (S.I. No. 180 of 2011), amended in 2013 to take account of population counts from the 2011 census and to align with the coal restricted areas in the 2012 Regulations (S.I. No. 326 of 2012):

- Zone A – Dublin
- Zone B – Cork
- Zone C – Other Cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, **Ennis**, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise.; and
- Zone D – Rural Ireland i.e. the remainder of the State excluding Zones A, B and C.

The majority of County Clare falls within Zone D with the exception of Ennis Town and surrounding urban area which falls under Zone C. Ennis and Environs falls within Zone C and the main influences on air quality here are from transport and industrial activity together with the burning of fossil fuels.

The Environmental Protection Agency (EPA) manages the National Ambient Air Quality Network. This network is a series of air quality monitoring stations that are located across the country. The national network is supported by a network of 'local monitoring stations'. These stations collect air quality data for public information on [www.airquality.ie](http://www.airquality.ie). This is assessed against European legal limit values and stricter World Health Organization (WHO) guideline values.

At a national level, the most recent EPA report on Air Quality in Ireland 2019 (EPA, 2020) notes that while air quality in Ireland is generally good, there are however localised issues in some cities, towns and villages. In 2019 there was an exceedance of the EU and stricter WHO limit values of NO<sub>2</sub> at one urban traffic station in Dublin due to pollution from transport. The measured particulate matter and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub> respectively), nitrogen dioxide (NO<sub>2</sub>), ozone, sulphur dioxide (SO<sub>2</sub>), polycyclic aromatic hydrocarbons (PAH), dioxins and all other pollutants were all below the EU emission limit value. Ireland was above the stricter WHO air quality guideline values SO<sub>2</sub> at 1 station; PM<sub>10</sub> at 14 stations (24hr WHO guideline daily value); PM<sub>2.5</sub> at 25 stations (24hr WHO guideline daily value) and at 5 stations (for the WHO guideline annual average value); and ozone at 2 stations. Ireland

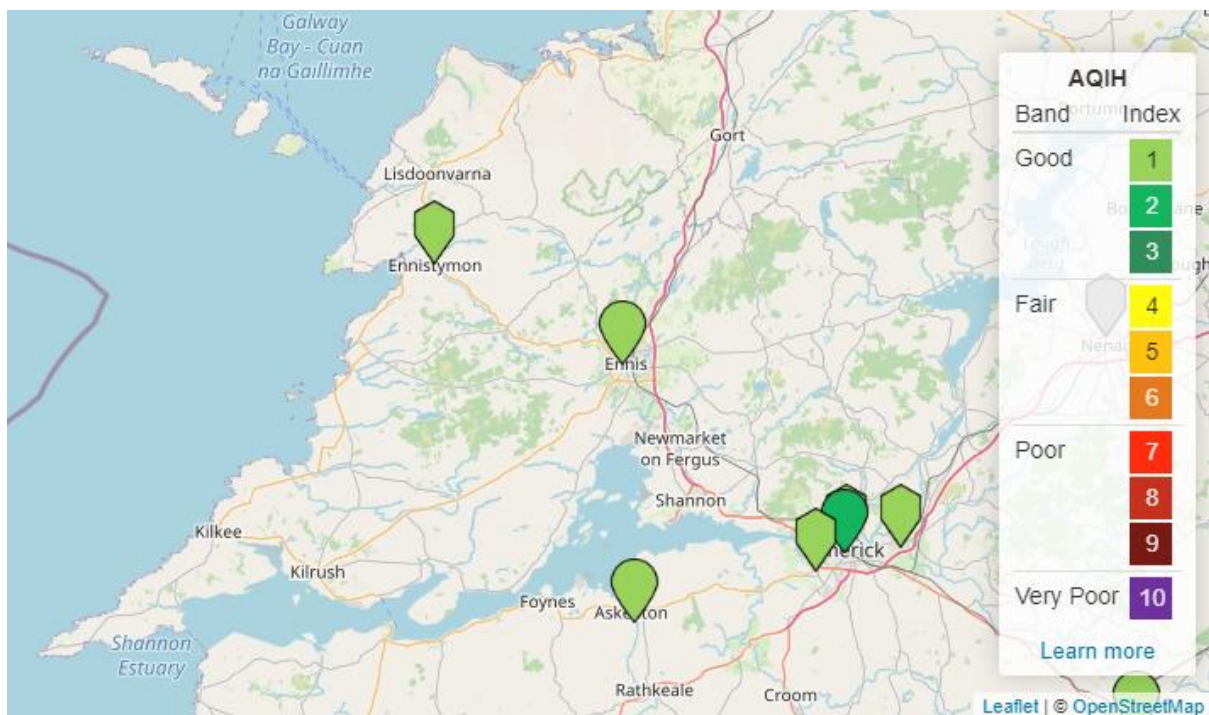


was above the European Environment Agency reference level for PAH at 4 monitoring sites due to the burning of solid fuel.

Residential use of solid fuel for home heating such as coal, peat and wood remain the biggest problem for air quality and health in Ireland and remains the leading contributor to PM<sub>2.5</sub> pollution across Ireland.

Within County Clare, there is a monitoring station located in Ennis (National Network) at the Local Authority building at Waterpark House and a station at Ennistymon (Local Network) located at the public library. The air quality index is calculated based on the information gathered from the monitoring stations using a Quality Index for Health, which is calculated every hour and indicates if air quality is good, fair, poor or very poor. The air quality readings in County Clare, namely that of Ennistymon and Ennis are currently “Index 1 Good”.<sup>28</sup> Refer to Figure 5.9.1 for Air Quality Index for County Clare.

**Figure 5.9.1 Air quality Index for County Clare**



**Source:** EPA, <https://airquality.ie/>

However, during one week in December 2020, where the WHO air quality guidelines warn that particulate matter, associated with the burning of solid fuels, should not exceed 25 micrograms on a 24-hour average, in Ennis reached 393 on one night. This would suggest that people could still be burning smoky coal, despite a ban introduced several years ago.

<sup>28</sup> Retrieved for 12pm on the 26th May 2021. Daily up to date information available for download from the EPA at: <http://www.epa.ie/air/quality/#.VgAeTlc4ygl>.

### 5.9.3 Greenhouse Gas Emissions

Greenhouse gases (GHGs) in the atmosphere are rising as a result of human activity, in particular the burning of fossil fuels for heating, energy and transport, in addition to other activities such as agriculture and waste.

At a national level, according to the EPA's *Final GHG Inventory Report* for the period 1990-2019<sup>29</sup>, emissions of GHGs in Ireland are estimated to be 59.78 million tonnes (Mt) carbon dioxide equivalents (CO<sub>2</sub>eq) in 2019. This is 4.4% lower than emissions in 2018 despite the economy continuing to grow. Emissions reductions have been recorded in 6 of the last 10 years of inventory data (2009-2019). This 2019 reduction in total emissions is driven by the *Energy, Agriculture* and *Transport* sectors. The final estimates of greenhouse gas emissions for the period 1990-2019 indicate that Ireland will exceed its 2019 annual limit set under the EU's Effort Sharing Decision (ESD) by 6.85 Mt CO<sub>2</sub>eq. This makes it highly unlikely that Ireland will meet its overall 2020 targets under the scheme, regardless of the impact of COVID on emissions in 2020.

In 2019, emissions from Ireland's Emissions Trading Sector [ETS] (which covers power stations, large industrial plants and airlines) decreased by 8.7% or 1.34 Mt CO<sub>2</sub>eq while non-ETS emissions (covered by the EU Effort Sharing Decision) decreased by 3% or 1.41 Mt CO<sub>2</sub>eq. *Agriculture* remains the single largest contributor to the overall emissions at 35.4% of the total. *Transport* and *Energy Industries* are the second and third largest contributors at 20.4% and 15.8% respectively. *Residential* and *Manufacturing Combustion* emissions account for 10.9% and 7.7% respectively. These five sectors accounted for 90% of national total emissions in 2019. The remainder is made up by the *Industrial Processes* at 3.8%, *F-Gases* at 1.5%, *Commercial Services* at 1.5%, *Public Services* at 1.5% and *Waste* at 1.5%.

Emissions from the *Energy Industries* sector in 2019 show a decrease of 11.2% or 1.19 Mt CO<sub>2</sub>eq compared to 2018, which is attributable to a 69% decrease in coal and an 8% decrease in peat used in electricity generation. Emissions from the *Residential* sector decreased by 7.3% or 0.52 Mt CO<sub>2</sub>eq due to significant reductions in fossil fuel use, with coal down by 29% and peat use down by 7%. Kerosene and natural gas use in households in 2019 also decreased by 4% and 2% respectively as a result of a warmer winter in 2019 compared to 2018.

The EPA has also published its Greenhouse Gas Emission Projections for 2019 – 2040.<sup>30</sup> The report provides an updated assessment of Ireland's total projected greenhouse gas emissions out to 2040 which includes an assessment of progress towards achieving its emission reduction targets out to 2020 and 2030 set under the EU Effort Sharing Decision (Decision No 406/2009/EU) and Effort Sharing Regulation (Regulation (EU) 2018/842).

The EPA's latest emissions projections show a significant shift in terms of decarbonising the Irish economy in the period out to 2030. The EPA has produced two scenarios in preparing these greenhouse gas emissions projections; a With Existing Measures (WEM) scenario and a With Additional Measures scenario (WAM), which includes the impact of the 2019 Climate Action Plan (CAP). Under the WEM scenario, total GHG emissions are projected to decrease from the current levels

<sup>29</sup> EPA (2020) Ireland's Final Greenhouse Gas Emissions 1990-2019.

<sup>30</sup> EPA (July 2020) Ireland's Greenhouse Gas Emissions Projections 2019-2040.

by 2.5% by 2030. Full implementation of the measures contained in the Climate Action Plan i.e. under the WAM scenario, would see a reduction in Ireland’s total emissions by up to 23% by 2030.

In the short term, Ireland is set to miss its target for compliance with the EU’s Effort Sharing Decision 2020 targets. Ireland’s non-ETS emissions<sup>31</sup> are projected to be 2% and 4% below 2005 levels in 2020 under the WEM and WAM scenarios, respectively.

In the longer term, Ireland will meet its 2030 target under the ESD as long as there is early and full implementation of the Climate Action Plan measures. Ireland will also need to avail of, at a minimum, Land-use, Land-use Change and Forestry (LULUCF) flexibilities provided for in EU legislation in order to comply.

Electricity generation, agriculture and transport, which continue to be key sectors that dominate Ireland’s emissions profile, are all projected to decline by 2030, based on implementation of the measures in the Climate Action Plan. For electricity generation, this will mean scaling up of the contribution of renewable to 70% by 2030. For agriculture this will mean implementing measures such as those set out in Teagasc’s Marginal Abatement Cost Curve. For transport, this will mean almost one million electric vehicles on Irish roads by 2030 and a considerable increase in the use of biofuels.

The latest projections are underpinned by projected strong economic growth. These projections do not include the impact of Covid-19 which are intended to be included in the next round of projections.

#### 5.9.4 Other Transboundary Emissions

The latest report from the EEA on the data submitted by Member States under the National Emissions Ceiling (NEC) Directive indicates that air pollution continues to be one of the major challenges in Europe, harming human health and the environment.<sup>32</sup>

Under the revised NEC Directive (2016/2284/EU), Ireland is therefore required to limit the annual national emissions of the following transboundary pollutants: sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOC), ammonia (NH<sub>3</sub>) and fine particulate matter (PM<sub>2.5</sub>). Ireland’s emissions ceilings under the NEC Directive applied until December 2019 with reference to 2005 as the base year. Article 4(1) and Annex II of the revised NEC Directive sets out new national emission reduction commitments for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, NH<sub>3</sub> and PM<sub>2.5</sub> which will be applicable from 2020 to 2029, and 2030 onwards; see Error! Reference source not found..1.<sup>33</sup> The latest data is available up to 2018.

**Table 5.9.1 Ireland’s National Emissions Ceiling Directive 2020 and 2030 Targets**

| Pollutant       | Current 2010-20 Targets (kilotonnes) | Emissions Trends (kilotonnes) |        |        |        |        | New Reduction Commitments (kilotonnes) |        |
|-----------------|--------------------------------------|-------------------------------|--------|--------|--------|--------|--|--------|
|                 |                                      | 2014                          | 2015   | 2016   | 2017   | 2018   | 2020                                   | 2030   |
| SO <sub>2</sub> | 42                                   | 17.015                        | 15.145 | 13.782 | 13.540 | 12.258 | 25.574                                 | 10.960 |

<sup>31</sup> These sectors cover agriculture, transport, built environment (residential, commercial/institutional), waste and non-energy intensive industry

<sup>32</sup> EEA (2020) National Emission reduction Commitments Directive reporting status 2020

<sup>33</sup> EPA (June 2020) Ireland’s Air Pollutant Emissions 1990-2030

| Pollutant         | Current 2010-20 Targets (kilotonnes) | Emissions Trends (kilotonnes) |         |         |         |         | New Reduction Commitments (kilotonnes) |         |
|-------------------|--------------------------------------|-------------------------------|---------|---------|---------|---------|--|---------|
|                   |                                      | 2014                          | 2015    | 2016    | 2017    | 2018    | 2020                                   | 2030    |
| NO <sub>x</sub>   | 65                                   | 106.305                       | 106.187 | 107.828 | 107.963 | 107.755 | 66.836                                 | 40.626  |
| NMVOOC            | 55                                   | 103.456                       | 103.577 | 105.269 | 109.942 | 109.784 | 56.335                                 | 51.077  |
| NH <sub>3</sub>   | 116                                  | 108.266                       | 110.695 | 116.160 | 118.441 | 119.339 | 112.066                                | 107.539 |
| PM <sub>2.5</sub> | N/A                                  | 13.419                        | 13.928  | 12.663  | 11.979  | 12.043  | 15.606                                 | 11.229  |

SO<sub>2</sub> emissions from Ireland have seen a consistent downward trend year on year since 1990. The main sources are combustion-related, mainly from the power stations and in the residential/commercial sectors (23.2% and 51.7% respectively) followed by the industrial sector (21.8%).<sup>34</sup> Emissions are projected to reduce even further to 2030.

Emissions of NO<sub>x</sub> contribute to acidification of soils and surface waters, tropospheric ozone formation and nitrogen saturation in terrestrial ecosystems. Road transport is the primary source (40.6%). This is followed by agriculture (32.4% of the total for 2018). The *industrial, power generation* and *residential/commercial* sectors are the other main sources of NO<sub>x</sub> emissions, with contributions of 8.7%, 6.3% and 7.4% respectively in 2018. The remainder of NO<sub>x</sub> emissions emanate from combustion in the agriculture sector and others (refining and storage, solid fuel manufacture, fugitive emissions and waste); together these sectors produced around 4.8% of the total in 2018. NO<sub>x</sub> emissions have been consistently above the NEC, reflective of Ireland's ongoing challenge in complying with the ceiling. Progress in reducing emissions has been difficult, even with the large reductions in emissions from power stations in recent years. Under the WAM scenario, NO<sub>x</sub> is projected to be just 1 kilotonne under the 2030 ceiling limit.

NH<sub>3</sub> emissions are associated with acid deposition and can contribute to the formation of particulate matter. Emissions have remained relatively steady with small fluctuations year on year. Ireland has exceeded the emission ceiling in 2016, 2017 and 2018. These increases are attributed to increasing numbers of dairy cattle and use of synthetic fertilisers. Road transport accounts for a small proportion (< 1%) of emissions (petrol passenger cars with three-way catalysts). Reducing NH<sub>3</sub> emissions will be challenging, and Ireland is projected to still exceed the ceiling limits in 2020 and 2030, even under the WAM scenario.

NMVOCs are emitted as gases by a wide array of products including paints, paint strippers, glues, cleaning agents and adhesives. NMVOCs also arise as a product of incomplete combustion of fuels and, as such, are a component of vehicle exhaust emissions. They also arise from the storage of animal manures and fertilisers in agriculture, and from the food and drink industry. NMVOCs contribute to the formation of ground level (tropospheric) ozone, with some species such as benzene and 1,3 butadiene being directly hazardous to human health.<sup>35</sup> In 2018 the main sources of these emissions in Ireland are from manure management in agriculture (39.4%), the food/beverages industry (24.4%) and solvent use (20.8%). Coal burning in the residential sector is an important but declining source as

<sup>34</sup> EPA (June 2020) Ireland's Air Pollutant Emissions 1990-2030. Available at: <https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/irelands-air-pollutant-emissions-2018-1990-2030.php>

<sup>35</sup> EEA (2015) Indicator Assessment: Non-methane volatile organic compounds (NMVOC) emissions

coal consumption decreases. Emissions from stationary combustion of fossil fuels across all sectors (power stations, residential, commercial, and agriculture) account for 10.9% of national emissions. Transport emissions account for 4.9% of national emissions, mainly from exhaust and fugitive releases from gasoline vehicles. The addition of emissions from fertilisers over the past three reporting years, plus sources from the food and beverages sector to Ireland’s reporting has added an average of 56.3 kilotonnes to the national total, effectively doubling previously reported emissions. This represents a significant challenge for Ireland to achieve reductions, with the WAM scenario projections indicating Ireland will be just over the 2030 ceiling by 0.08 kilotonnes.

PM is ubiquitous and there are many sources of dust including vehicle exhausts, surfaces such as soils and roads, industry emissions, construction activities as well as formation from reactions between different pollutant gases. PM<sub>10</sub> (dust particles with a diameter less than 10 µg) is small enough to be inhaled into the lungs however fine particulate matter (PM<sub>2.5</sub>, diameter less than 2.5 µg) is considered a better measure of anthropogenic sources of particulate matter. The main source in Ireland is fossil fuel combustion in the commercial and residential sectors (54.9%), with transport contributing 13.8%. Emissions from the *Other* sector account for 7.5% of 2018 emissions and comprise emissions from the manufacture of solid fuels and oil refining/storage, construction and demolition, minerals, paving sectors etc. Emissions from agriculture accounted for 7.4% of PM emissions. Ireland is currently meeting its PM<sub>2.5</sub> ceiling target, and projections under the WAM scenario indicate Ireland will be under the 2030 ceiling limit.

### **Domestic Solid Fuel Burning**

Burning of fossil fuels such as coal is a major factor in air pollution. The sale of bituminous (smoky) coal was banned in Dublin in the early 1990's in an effort to address this issue. The control of domestic burning of bituminous fuel (smoky coal) is administered through the Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels) Regulations 2012 (S.I. No. 326 of 2012), as amended.

The ban saw an improvement in smoke and sulphur dioxide levels. Limiting harmful emissions of air pollutants arising from the use of residential fuels will contribute to safeguarding air quality.

A ban on the burning of bituminous coal and other prohibited fuels now applies in all smoky coal ban Low Smoke Zones to complement the ban on the marketing, sale and distribution. Under the Smoky Coal Ban Regulations 2012-2020 the ban now applies to all towns with populations over 10,000 people. Ennis and its environs is designated as a Low Smoke Zone.

A nationwide Low Smoke Zone is expected to be introduced in the coming years to improve air quality and human health for the entire population.

### **5.9.5 Issues and Threats in the Plan Area**

In general, ambient air quality in Ireland is consistently good, due largely to the prevailing clean westerly airflow from the Atlantic, and the relative absence of large cities and heavy industry. With the nationwide ban on smoky fuel effective from 2019, the use of wood and biomass as alternatives may be perceived as a potential “clean” heating source. However, research has shown that such fuel alternatives can also lead to equally high levels of particulates and PAHs. On the one hand, moving away from hydrocarbon fuels is overall positive for air quality and climate action at a regional and



national scale, but adopting the widespread use of biomass as a heating source has the potential to impact negatively on local air quality.

Increasing population and the demand for electricity, heating fuels, construction materials and vehicle ownership are some of the national drivers for air emissions in Ireland. Ireland also has a large agricultural and food production and export industry, a key driver for ammonia emissions. Expected growth in the agricultural sector along with the removal of milk production quotas within the EU will increase pressure on future emissions to air from this sector.

Fine particulate matter can be emitted directly into the atmosphere or can be formed secondarily, with the main source being combustion of fossil fuels. While Ireland is currently meeting its 2020 national ceiling limit target, reductions to 2030 will be challenging as it requires an integrated approach across a number of sectors including industrial, transport and residential emissions.

The test in meeting Ireland's NO<sub>x</sub> obligations under the NEC Directive is also challenging, as Ireland's NO<sub>x</sub> levels have exceeded its emission ceilings for all years since 2010, with transport emissions being the greatest source of NO<sub>x</sub>, as well as a source of PM<sub>2.5</sub>.

The EU Commission's targets require Ireland to deliver a 20% reduction in emissions of GHGs relative to 1990 levels by 2020, and a 30% reduction by 2030 under the 2030 Climate and Energy Framework. At a national level, Ireland's National Policy Position is to achieve an aggregate reduction of at least 80% on 1990 levels by 2050 across the electricity generation, built environment and transport sectors. Bill 82 of 2018 to amend the Climate Action and Low Carbon Development Act intends to specify a GHG emissions reduction of 40% by 2030 to be included in the next NMP and NAF.

Ireland's total national GHG emissions are estimated to have declined by 4.5% on 2018 levels to 59.90 million tonnes carbon dioxide equivalent (Mt CO<sub>2</sub>eq) in 2019, despite the economy continuing to grow. This is a step in the right direction but the challenge will be to sustain and reduce further over the coming decades, as national projections indicate Ireland will exceed its 2019 annual limit set under the EU's Effort Sharing Decision (ESD) by 6.98 Mt CO<sub>2</sub>eq. This makes it highly unlikely that Ireland will meet its overall 2020 targets under the scheme, regardless of the impact of COVID on emissions in 2020.

Capacity of the grid to accept the levels of electricity capable of being generated by renewable means; There will need to be a requirement for close liaison with EirGrid regarding Grid 25 Strategy. Issues could also arise in project proximity to grid connection.

The RES has the potential to change agricultural practices and create new demands on rural areas should there be a growing demand for fuel to serve the renewable energy industry (e.g., woodland and energy crops as biomass).

### **Renewable Energy Strategy and impacts on Air Quality**

- Potential for improvements in air quality from greater use of Renewable Energy.
- Potential for reduction in emissions of greenhouse gases from increased development of Renewable Energy



- Emissions arising from Renewable development (e.g., during construction, operation, maintenance or decommissioning activities), and from vehicle movements during these phases (e.g. PM, NOx).
- The continuation of Moneypoint coal-burning power plant in Co Clare poses a threat to the air quality of the county. The ESB's has plans to turn the Moneypoint site into a green energy hub - plans include transforming it into a renewable energy site over the next decade to include a 1,400MW floating offshore windfarm, a turbine construction hub and a hydrogen production facility. The Clare RES will need to be cognisant of the Renewable Targets 2030 targets and the role Moneypoint will play in achieving these targets.
- Further, the Climate change Adaptation Plan for the Electricity and Gas Networks Sector outlines the key climate change conditions which could affect the resilience of the electricity generation sector as follows:<sup>36</sup>

Temperature: Average temperatures will rise by about 1.5 degrees Celsius by mid-century

Precipitation: wetter winters and drier summers

Extreme Events: increased frequency of heavy rainfall

Sea level rise: a rise of 50cm by 2100 is predicted

Energy content of wind: increased energy content in winter and a decrease in summer months.”

An issue facing County Clare in relation to climate change is the danger posed by the potential for an increase in the frequency and severity of flooding events. The county is vulnerable from a number of hazard sources including fluvial (river flooding), pluvial (flooding due to rainfall or other precipitation), coastal (e.g. tidal surges), groundwater (notably in karst regions, such as the Burren); flooding from reservoirs; development on floodplains and flooding in urban areas due to inadequate drainage and over-capacity sewers. Changes in the occurrence of severe rainfall events as a result of climate change could adversely impact upon the inhabitants of County Clare, its biodiversity, population and its economy. Solutions require the amelioration of potential flooding events as well as local measures as part of national efforts to reduce greenhouse gas (GHG) emissions. Based on past events, there is potential for flooding within County Clare, particularly in proximity to the River Fergus, Inagh River and Lough Derg.

Another threat in the Plan area could be the argument to not pursue renewable projects since Clare is already within 1% of the 100% renewable energy target. Since all credited renewable electrical energy generated in County Clare is almost equal to the electrical energy consumed in Clare this results in a net zero CO<sub>2</sub> emission factor. In practice, the electricity mix supplied to County Clare will include fossil fuels and there are CO<sub>2</sub> emissions from other sectors. Increasing the generation of renewables within the County will help to reduce national dependence on fossil fuels, so County Clare can still go further to increase Renewable Energy generation.

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<sup>36</sup> DCCAE (February 2018) Climate Change Adaptation Plan for the Electricity and Gas Networks Sector.

### 5.9.6 What would happen to air and climate without the implementation of the CDP?

Climate change is predicted to increase problems of flooding and potential increase in periodic droughts due to changes in rainfall patterns. Provision needs to be incorporated into the Plan for mitigation and adaptation measures to provide for the Plan area to become resilient to meeting the challenges of climate change. If the Plan were not to be implemented flooding would become an unmanaged phenomenon with significant environmental effects across all the environmental parameters set out in this report.

The Renewable Energy Strategy which forms an integral component of the CDP outlines the potential for a range of renewable resources, including bioenergy and anaerobic digestion, micro renewables, geothermal, solar, hydro, energy storage, onshore and offshore wind, wave and tidal energy. It acknowledges the significant contribution they can make to County Clare being more energy secure, less reliant on traditional fossil fuels, enabling future energy export and meeting assigned targets. Therefore, in the absence of a Plan the targets set out at European and national level could slip. In addition, the RES sets out a target of meeting the County's Energy Needs from 100% Renewable Sources and in the absence of the Plan this target would be harder to meet and to maintain. Currently, the majority of electricity generation in Clare comes from renewable sources in Clare (wind). Less than a 1% share was taken from the national electricity grid. Further without the Plan County Clare would not be a national leader in renewable energy generation. Without the Plan there would be a haphazard approach to renewable energy projects development which could have consequences within the Plan area. Such consequences in the absence of a Plan include the favouring of energy generation from less environmentally friendly sources which would impact negatively on air quality.

An issue facing County Clare and Ireland as a whole in relation to climate change relates to the danger posed by flooding events, which may occur, at least in part, as a result of increased amounts of global GHG emissions from for example transport and other sectors use of non-renewable resources. High incidence rainfall events are occurring more frequently which cause local flooding. Utilisation of renewable energy technologies will reduce GHG emissions and this in turn should help to mitigate the impacts from extreme weather events, as well as contributing to national emission targets as well as providing energy security. In the absence of the RES, wind farm development would continue to progress under the current wind energy strategy. The RES will add a more targeted and strategic approach to utilising other renewable energy resources in addition to wind power including solar, hydro etc.

### 5.9.7 Data gaps/difficulties

There is a general absence of detailed information specific to Ireland in relation to Climate Change and what is available can be difficult to identify and source. The Climate Ireland resource currently being developed and undergoing testing will be a significant advancement once it has reached completion and becomes available as a generally accessible resource, anticipated for 2015.

No particular difficulties encountered. The development of the Energy Emissions Balance for Clare in tandem with the RES and the wealth of sectoral data from EPA provides sufficient baseline data to identify baseline air and climate trends within County Clare.

In addition, Climate Ireland accessed at developed in 2016 by the Centre for Marine and Renewable Energy (MaREI) at University College Cork (UCC) and the Irish Centre for High End Computer (ICHEC)

at the National University of Ireland, Galway provides a wealth of detailed information on climate change and adaptation measures for Ireland. Prior to this resource there was a gap in accessing information specific to climate change in Ireland.

**5.9.8 Inter-relationships**

Air quality and climate change has a strong inter-relationship with all environmental parameters.

|    |     |    |   |     |   |    |     |     |      |      |      |
|----|-----|----|---|-----|---|----|-----|-----|------|------|------|
|    | PHH | SG | W | BFF | L | CH | MAT | MAW | MAWS | MAWW | MARE |
| AC | √   | √  | √ | √   | √ | √  | √   | √   | √    | √    | √    |

(BFF = Biodiversity, Flora and Fauna; PYHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Climatic Factors; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Waste Water; (MA)RE = Renewable Energy; CH =Cultural Heritage;

| SEA Recommendations   | Inclusion in the Plan   |
|---|---|
| Climate Change must be defined within the County Development Plan and embraced as a central component to the Plan reflecting its importance and need for integration into the various components of the Plan to ensure resilience to future climate change. Adaptation should become embedded in the CDP and how the council operates as a while with Mitigation clearly defined.                                     | Yes. This is achieved through the inclusion of a specific chapter on Climate Action (Chapter 2) together with linkages and integration across all other chapters. |
| Include an objective within the Plan to commit to the implementation of the Local Authority Climate Change Adaptation Strategy 2019-2024.<br><br>Achieve a ‘just transition’ particularly for communities that may be economically disadvantaged by decarbonising projects  | This is achieved through the inclusion of CDP Objective 2.2 relating to Climate Change Mitigation, Adaptation and Resilience                                      |
| The Flood Risk Assessment is undertaken taking account of the existing use of benefitting lands. Proposed land-use zonings should take this into account, by providing for future development which would be similar or less vulnerable in nature to that of the existing use. The justification test should be undertaken when considering future land-use zonings for designated Flood Zone areas in the Plan area. | Yes.  |
| Continue to support the work of the Climate Action Regional Offices (CARO).   | This is achieved through the inclusion of Section 2.6 Climate Adaptation Strategy.  |
| The Plan should include an objective to promote and encourage combined heat and power and district heating.   | This is achieved through the inclusion of objective in the plan as Objective 2.18   |

|  |   |
|--|---|
| <p>The Plan should include an objective which seeks to encourage and facilitate the development of low carbon/passive housing by requiring development proposals to demonstrate details of how it adopts energy efficiency and environmental sustainability.</p>   | <p>Yes. This is achieved through the inclusion of CDP Objectives 18.5 &amp; 18.6.</p>   |
| <p>The Plan should incorporate and promote sustainable transport including supporting and promoting increased provision of public transport, particularly in relation to a local bus service, to serve the Plan area.</p>  | <p>Yes.</p>   |
| <p>The Plan should acknowledge the close inter-relationship between a low-carbon community with green infrastructure by incorporating cross-referencing between and appropriate objectives in this regard e.g promoting the implementation of a green infrastructure strategy will encourage a shift away from the use of private transport to more sustainable modes of walking, cycling etc.</p>   | <p>Yes.</p>   |
| <p>Air</p> <p>Uses within neighbourhood centres should be considered in relation to the odours and noise generated by certain commercial activities. Some uses cause localised problems in this regard, for example significant problems occur in relation to dry cleaners (air pollution) and late-night takeaways (air pollution and noise from late night customers) and general servicing with late night deliveries causing local disturbance. Mitigation measures – physical buffer between neighbourhood centre and residential areas (e.g., through provision of open space/playing fields etc). Dry cleaners that are to be located in a neighbourhood centre should consist of a collection point with the cleaning process being undertaken off-site in a location suitable to such uses, for example an industrial estate.</p> <p>Facilities where the cleaning process is undertaken must be registered, assessed, and have a certificate of compliance with a solvent management plan in place for dry cleaners. Measures should be put in place in accordance with the EPA “Best Practice Guidelines for Dry Cleaners” and “Best Practice Guidelines for Vehicle Refurbishment” to minimise the risk of air contamination from these sources.</p> | <p>This is achieved through the inclusion of CDP Objective 11.41.</p>   |
| <p>The protection of trees within the Plan area, as well as the requirement for additional planting to accompany proposals for development in recognition of their multi-functional role they play within the environment i.e. carbon sink, noise buffer, biodiversity and amenity value.</p>  | <p>The importance of trees within the county is highlighted throughout the Plan and through the inclusion of CDP Objective 15.19.</p> |

|  |  |
|--|--|
| <p>Prepare an integrated sustainable transport plan, including mobility and permeability within the town centre, neighbourhoods and the linkages between them, including green infrastructure.</p> | <p>This is incorporated throughout the Plan as reference is made to sustainable mobility, including walking, cycling and green infrastructure strategies and through the inclusion of CDP Objectives 11.3 relating to the commitment to implement the Limerick Shannon Draft Metropolitan Area Transport Strategy and 11.14 relating to Strategic Regional Roads</p> |
|--|--|

## 5.10 Water

### 5.10.1 Introduction

A desk-based assessment of water quality in the study area was conducted. The sources of the water quality information include:

- Water Framework Directive (WFD) water body status information arising from the WFD monitoring programme (EPA, WFD Status 2013- 2018);
- Water Framework Directive water body risk arising from the WFD monitoring programme (EPA, 3<sup>rd</sup> Cycle Risk 2020);
- Bathing water quality information outlined in the EPA’s most recent bathing water quality report.
- Bathing Water Quality in Ireland 2019 (EPA, 2019);
- Marine Strategy Framework Directive (MSFD);
- Nutrient sensitive areas under the Urban Wastewater Treatment Regulations, 2001 (SI No. 254 of 2001); and
- GSI aquifer vulnerability information.

### 5.10.2 Marine Environment

The marine environment and its ecosystems are subject to multiple pressures and impacts from human activities, such as fishing, seabed disturbance, pollution or global warming. As a response, the EU designed the Marine Strategy Framework Directive (MSFD) as a holistic policy to protect the marine environment of the seas around Europe while enabling the sustainable use of marine goods and services. The MSFD has been in force since 2008. It requires Member States to set up national marine strategies to achieve, or maintain where it exists, ‘good environmental status’ (GES) by 2020. The Directive is implemented in a six-year cycle with three major stages.

(1) In 2012 and in 2018, Member States had to report on the status of their marine waters and set targets to achieve good environmental status based on the eleven ‘descriptors’ (objectives) set by the MSFD, which cover the health of ecosystems and the human pressures and impacts affecting them.

(2) In 2014, Member States had to set up monitoring programmes to collect data to assess progress in achieving good environmental status and reaching targets.

(3) In 2016, Member States had to set up programmes of measures that would help them to deliver their objectives, and in 2018 they had to report on their progress in implementing the programmes<sup>37</sup>.

In Ireland the Department of Housing, Local Government and Heritage along with four other governmental agencies and the Marine Institute have been assigned to deliver the work required by the MSFD.

<sup>37</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0259&from=EN>



The following timeline was established

- July 2010: Transpose the directive (Completed)
- July 2012: Complete [initial assessment](#) of Irish marine waters; [establish environmental targets and indicators](#) (Completed)
- July 2014: Establish a [monitoring programme](#) (Completed)
- July 2016: Establish a [programme of measures](#) to achieve GES (Completed)
- 2016: Implement the programme of measures and monitoring programme (Ongoing)<sup>38</sup>

The Marine Strategy Framework Directive 2008/56/EC Article 17 update to Ireland's Marine Strategy Part 1: Assessment (Article 8), Determination of Good Environmental Status (Article 9) and Environmental Targets (Article 10) Assessment Sheets published in 2020<sup>39</sup> detailed the eleven-descriptors with conclusions from the most recent assessments in 2018 also noted:

1. Biodiversity - the proportion of species achieving GES is currently 21%, which is below the lower threshold value of 60% advised by ICES.
2. Non-Indigenous species - 3 no. newly introduced species have been identified in Irish Marine waters; (*Undaria pinnatifida*), Wakame or Asian kelp, (*Schizoporella japonica*), a bryozoan and (*Perphora japonica*), a colonial sea squirt. Significant progress has been made in implementing management processes aimed at minimising new introductions.
3. Commercial fish and shellfish - GES has been achieved for many but not for all commercially exploited fish and shellfish stocks in Ireland's waters. An estimated 25% of commercial stocks have not achieved GES.
4. Food webs - With regard to all elements of the marine food webs in Ireland's maritime area, the environmental status is currently unknown.
5. Eutrophication - Overall, nutrient enrichment within Ireland's Assessment Area is good, with nutrient enrichment events reduced to a level that Good Environmental Status is achieved for this criterion.
6. Sea floor integrity - Quantitative thresholds are currently not available for the acceptable extent of loss of the benthic habitat type, resulting from anthropogenic pressures. This and associated methodologies are coordinated works in progress at EU and Member State level. However, the general objectives around physical loss of the seafloor have been met for Ireland's maritime area because the calculated extent of loss is lower than any potential threshold value. Hence Ireland is achieving GES for these MSFD criteria.

<sup>38</sup> <https://www.gov.ie/en/publication/f8aa5-the-marine-strategy-framework-directive-msfd/?referrer=http://www.housing.gov.ie/water/water-quality/marine-strategy/marine-strategy-framework-directive-msfd#who-is-working-on-this>

<sup>39</sup> [http://www.housing.old.gov.ie/sites/default/files/publications/files/appendices\\_-\\_assessment\\_sheets\\_.pdf](http://www.housing.old.gov.ie/sites/default/files/publications/files/appendices_-_assessment_sheets_.pdf)

7. Hydrographical conditions - The permanent alteration of hydrographical conditions during the period 2014 to 2018 is limited to 0.109 % of the Irish Marine Strategy Framework Directive area. The impact from these alterations was localised with respect to hydrographical conditions and the short-term water quality impacts experienced during the dredging and disposal activities. The adverse impacts on the marine ecosystems are minimal from the very limited hydrological changes which have occurred. There are no proposals to change the characteristic of Good Environmental Status as previously outlined in the Initial Assessment (2013) for Descriptor 7.
8. Contaminants - Good Environmental Status has been achieved for metal concentrations in biota in the Irish maritime area.
9. Contaminants in seafood - The level of non-compliance for contaminants in seafood is extremely low and concentrations of these contaminants are generally well within the limits set in Commission Regulation 1881/2006 EC. Good Environmental status has been achieved for Descriptor 9.
10. Marine Litter –As baselines and thresholds have not yet been finalised, it is not possible to state whether or not Ireland has reached good environmental Status in relation to beach litter and for similar reasons it is not possible to state whether or not Ireland is in GES in relation to marine litter on the seabed or on the surface of the water column at this time as baselines and thresholds have not yet been set for these.
11. Energy including underwater noise - The current state of the Irish marine environment is compatible with Good Environmental Status for spatial distribution, temporal extent, and levels of anthropogenic impulsive sound sources.

### **5.10.3 Water Framework Directive**

Since 2000, water management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The Directive runs in 6-year cycles, its first cycle ran from 2009 – 2015. The second cycle runs from 2016 – 2021 and third cycle runs from 2021-2027. It requires that all member states implement the necessary measures to prevent a deterioration of the status of all waters, these being surface, ground, estuarine and coastal, and to protect, enhance and restore all waters with the aim of achieving ‘good’ status by 2027. Member states, under this Directive, must keep a register of all the water bodies that require more stringent measures in terms of protection by virtue of how the water is used by people and by wildlife. The European Union (Water Policy) Regulations 2014 give effect to a new three tier governance structure and administrative arrangements to bring “clarity and certainty to the implementation of the Water Framework Directive”, whereby local authorities (Tier 3) will lead on implementation, enforcement, and public engagement at local river level.

### **5.10.4 River Basin Management Plan 2018-2021**

Ireland is required to produce a River Basin Management Plan (RBMP) under the Water Framework Directive (WFD) every six years. The first cycle RBMP covered the period 2009–2015. Due to delays in developing the second cycle RBMP, this Plan covers the period 2018–2021. Currently the third-cycle Plan for 2022–2027 is being developed.

For the 2nd Cycle, the Eastern, South Eastern, South Western, Western and Shannon River Basin Districts were merged to form one national River Basin District. In relation to the North Western and Neagh Bann International River Basin Districts a single administrative area was established in the Republic of Ireland portion of these two IRBDs for the purpose of coordinating their management with authorities in Northern Ireland. In the first cycle, the structure of multiple RBDs did not prove effective, either in developing the plans, or in implementing them. It is now apparent that a single River Basin structure is a more sensible way of ensuring that resources are used efficiently and that the similar challenges faced across the country are addressed in a coherent way. The plan saw the development of a Blue Dot Catchments Programme which will create a network of excellent river and lake areas. Agencies will work together to protect or restore excellent water quality in these water bodies.

The Irish River Basin District covers an area of 70,273km<sup>2</sup>. This has been broken down into 46 catchment management units. These units are, in the main, based on the hydrometric areas in use by authorities — with, for example, the River Shannon being sub-divided on the basis of the catchments of its major tributaries. The 46 catchment management units have been broken down further into 583 sub-catchments. These 583 sub-catchments contain a total of 4,829 water bodies<sup>40</sup>.

Of the 46 Catchments in Ireland Clare County is part of 4 of them;

- Lower Shannon (No. 25C and 25D);
- Shannon Estuary North (No.27);
- Mal Bay (No.28); and
- Galway Bay South East (No. 29).

The Catchment as the basis of water management is not a new concept; however, Integrated Catchment Management is new to Ireland. The Catchment dataset forms part of a three-tier hierarchy. The base unit, and tier 1, are the WFD River waterbodies (RWB). The middle tier will consist of the WFD Sub catchments and the final tier, tier 3 will be the WFD Catchments. The Catchments dataset is built using clusters of these RWB basins. See **Figure 5.10.1** for Catchments and sub catchments within County Clare.

#### 5.10.5 WFD Waterbody Status

Environmental Quality Standards (EQSs) for classifying surface water status are established in the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (SI 272 of 2009). These regulations set standards for biological quality elements, physico-chemical conditions supporting biological elements (including general conditions and specific pollutants), priority substances and priority hazardous substances.

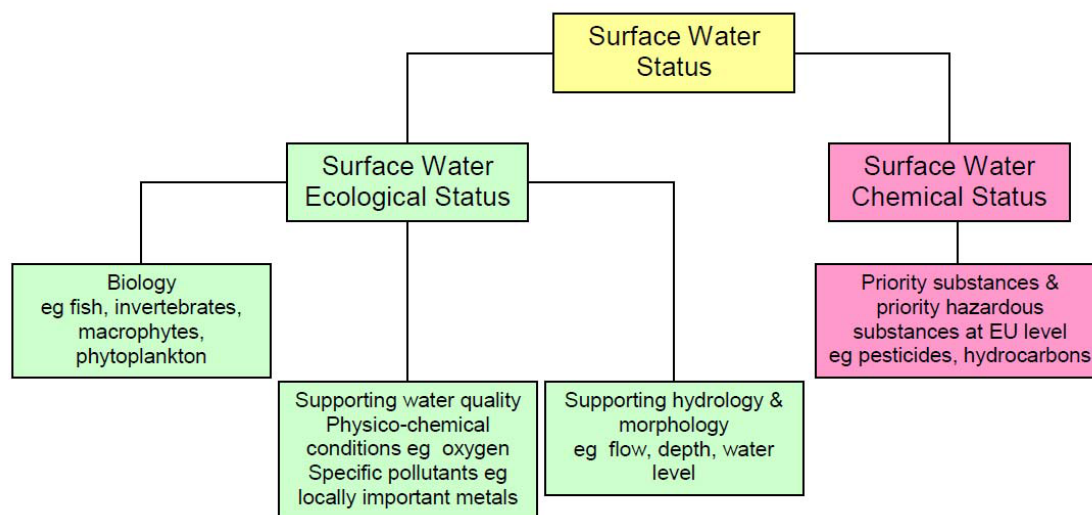
The ‘ecological status’ of a water body is established according to compliance with the EQSs for biological quality elements, physico-chemical conditions supporting biological elements and relevant Pollutants. The ‘chemical status’ of a water body is established according to compliance with the EQSs for priority substances and priority hazardous substances (SI 272 of 2009). Refer to **Plate 5.10.1** below.

<sup>40</sup> <https://www.gov.ie/en/publication/429a79-river-basin-management-plan-2018-2021/?referrer=http://www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021>

In order to establish the WFD status of water bodies, the EPA developed a new, WFD-compliant monitoring programme which began in 2006. The EPA published WFD status classifications for the period 2013-2018 based on the data collected during the period (EPA, 2019a). Water Quality in Ireland reports have also been published by the EPA providing an update on the quality of water in rivers, lakes, transitional, coastal waters and groundwater. The most recent report was published in 2019 using information collected in this year (EPA, 2019b). In 2021 the EPA published Irelands National Water Framework Directive Monitoring Programme 2019-2021 report which sets out the structure and content of Irelands WFD monitoring programme for these years (EPA, 2021).

In addition, the EPA produce a produces State of the Environment reports on a four-yearly cycle. The report provides timely information and knowledge to the public, policymakers and key economic sectors in support of action to protect and manage the environment. The most recent report was published in 2020 and includes a water quality and marine environment chapters.

#### Plate 5.10.1 Elements of Surface Water Status



The WFD water body status (2013-2018) of the surface and groundwater bodies within County Clare and published by the EPA in 2018 and illustrated in **Figure 5.10.2** (River & Lake) and **Figure 5.10.3** (Transitional and Coastal status).

Clare County Council published a synopsis of water quality in County Clare extracted from the EPA's Water Quality Report for the monitoring periods of 2013-2018<sup>41</sup>. The 2013-2018 period found that in Clare 48% of rivers have satisfactory water quality (High or Good Status) compared to 64% in the 2010-2015 WFD status, a deterioration of 16% over the two monitoring periods. 62 river waterbodies, 12 Lake waterbodies, 2 groundwater bodies and 3 transitional waterbodies are at risk of failing to achieve WFD objectives. The hydrometric areas in County Clare are Lower Shannon (No.25C and 25D), Shannon Estuary North (No.27) Mal Bay (No.28), and Galway Bay South East (No. 29). Overall, the current situation for rivers and lakes in County Clare;

- 4 rivers and 1 coastal waterbody have **High** quality status

<sup>41</sup> <http://clareppn.ie/wp-content/uploads/2020/10/County-Clare-Corporate-PP-to-SPC-Oct-2020.pdf>

- 48 rivers, 7 lakes, 27 groundwater bodies, 1 transitional waterbody and 1 coastal waterbody have **Good** Water quality status
- 25 rivers, 6 lakes, 2 ground waterbodies and 1 transitional waterbody have **Moderate** Water quality status.
- 33 rivers, 1 lake, 2 groundwater bodies and 2 transitional waterbodies have **Poor** Water quality status.
- 1 river, 2 lakes and 1 transitional waterbody have **Bad** Water quality status.

The table below summarises the current WFD for all waterbodies in Co. Clare including transitional, coastal and groundwater.

**Table 5.10.1: Waterbody WFD Status in County Clare (2013-2018)**

| Water Body Type                              | No. Water Bodies <sup>42</sup> | % Water Bodies | % Water Bodies |
|--|--------------------------------|----------------|----------------|
| <b>River Water Bodies</b>                    |                                |                |                |
| High Status                                  | 4                              | 2.5%           | <b>37.5%</b>   |
| Good Status                                  | 48                             | 35%            |                |
| Moderate Status                              | 25                             | 18%            | <b>42%</b>     |
| Poor Status                                  | 33                             | 23.5%          |                |
| Bad Status                                   | 1                              | 0.5%           |                |
| Unassigned                                   | 26                             | 20%            | <b>20%</b>     |
| <b>Lake Water Bodies</b>                     |                                |                |                |
| High Status                                  | 0                              | 0%             | <b>24%</b>     |
| Good Status                                  | 7                              | 24%            |                |
| Moderate Status                              | 6                              | 20.5%          | <b>31%</b>     |
| Poor Status                                  | 1                              | 3.5%           |                |
| Bad Status                                   | 2                              | 7%             |                |
| Unassigned                                   | 13                             | 45%            | <b>45%</b>     |
| <b>Transitional and Coastal Water Bodies</b> |                                |                |                |
| High Status                                  | 1                              | 4.5%           | <b>13.5%</b>   |
| Good Status                                  | 2                              | 9%             |                |
| Moderate Status                              | 1                              | 4.5%           | <b>18%</b>     |
| Poor Status                                  | 2                              | 9%             |                |
| Bad Status                                   | 1                              | 4.5%           |                |
| Unassigned                                   | 16                             | 68.5%          | <b>68.5%</b>   |
| <b>Groundwater Bodies</b>                    |                                |                |                |
| High Status                                  | 0                              | 0%             | <b>93%</b>     |
| Good Status                                  | 27                             | 93%            |                |
| Moderate Status                              | 0                              | 0%             | <b>7%</b>      |
| Poor Status                                  | 2                              | 7%             |                |
| Bad Status                                   | 0                              | 0%             |                |
| Unassigned                                   | 0                              | 0%             | <b>0%</b>      |

<sup>42</sup> Status taken from EPA data available at <https://gis.epa.ie/GetData/Download> Accessed May 2021.

Of particular note since the last RBMP is the decline in High Status water bodies across Ireland. In Clare, there are four high status river water bodies, Ardcloony\_010, Ayle\_010, Corra\_020 and Glenomra Wood Stream\_010, all of which are within Hydrometric Area 25 – Lower Shannon.

Across Ireland, high ecological status objectives have been set for 319 river water bodies which are either at high status or were at high status in the recent past, but which have since declined<sup>43</sup>. The aim of this is to protect the water bodies which are currently at High Status and restore those which were High Status in the recent past. Of these, 13 High Status Objective Waters<sup>44</sup> are found within County Clare; Owenslieve\_010, Aughaglanna\_010, Blackwater (Clare)\_010, Ardcloony\_010, Broadford\_020, Owenogarney\_020, Cloghaun\_010, Ayle\_010, Graney (Shannon)\_030, Corra\_020 and Bleach\_020. The Owendalulleegh\_040 and Owendalulleegh\_050 are both found on the border of Clare and Galway and small tributaries of these rivers rise within Clare County.

Over the 2013-2018 period 37 river waterbodies and 3 lake waterbodies deteriorated in water quality status while only 5 river waterbodies and 1 lake waterbody improved in water quality status.

The most common sources of pollution encountered in County Clare was eutrophication from excessive nutrient inputs, organic pollution from slurry, fertilisers and sewage and siltation. Overland runoff from agricultural land and breakdown of organic matter such as sewage from urban wastewater treatment plants and commercial developments. Another source of Eutrophication and siltation issues has been attributed to areas where land is disturbed for forestry plantations. Hydromorphological impacts have been attributed to agricultural drainage.

Water bodies identified as being At Risk of not achieving their environmental objectives need to have targeted measures implemented to achieve objectives under this Plan. The manner and the timeframe in which these targeted measures are implemented need to be prioritised to take account of the finite resources available and of the time and resources needed to develop appropriate measures. During the development of the second cycle RBMP, a prioritisation exercise was undertaken by the local authorities, the EPA and other stakeholders to identify those water bodies that require immediate action within this plan cycle to 2021.

Several river and lake water bodies in Clare have been identified as Areas for Action (AFA's); Doonbeg System, Lickeen System, Doo Lough and Annageeragh, Aille (Clare), Lower Graney, Inchiquin & Atedaun Lakes, Shallee, Carrigholt, Broadford and Bleach & Lough Graney.

Clare County Council and LAWPRO have identified and proposed 125 water bodies for protection and restoration to be included in the 3<sup>rd</sup> cycle of the River Basin Management Plan (RBMP).

The EPA's water quality report 2013-2018<sup>45</sup> identified two transitional waterbodies (TWB) associated with County Clare at poor or bad status, with the Shannon airport lagoon TWB classified as at poor ecological status and the Lough Donnell TWB classified as at bad ecological status. The biological driver behind these classification for Shannon airport lagoon TWB and the Lough Donnell TWB is lagoonal communities.

<sup>43</sup> [https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20\(web\).pdf](https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20(web).pdf)

<sup>44</sup> <https://data.gov.ie/dataset/high-status-objective-water-bodies>

<sup>45</sup> [https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20\(web\).pdf#page=59](https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20(web).pdf#page=59)



Coastal waterbodies that have been surveyed during the 2013-2018 period are Outer Galway Bay (High Status) and the Mouth of the Shannon (23;27) (Good Status).

Overall water quality in Ireland compares favourably with that in other EU countries. However, similar to many other EU countries, Ireland still faces considerable challenges to meet the core objectives of the WFD within the required timeframes. Of particular note, in terms of change across status categories, is the continuing decline in the proportion of high status surface water bodies, which have decreased from 12.9% in 2007- 2009 (the first WFD baseline assessment) to 8.5% in 2013-2018, and the very unwelcome increase in the proportion of poor status surface water bodies, which have increased from 14.8% in 2007-2009 to 17.9% in 2013-2018.

The three main challenges for water quality management are to eliminate serious pollution associated with point sources; to tackle diffuse pollution; and to use the full range of legislative measures in an integrated way to achieve better water quality. A key element of the Programme of Measures developed to achieve the objectives of the WFD is focused measures on rivers water bodies where monitoring has identified particular causes of pollution, which will help reduce pollutant loading to lakes and coastal waters as well as improving river quality.

Figure 5.10.1 WFD Catchments and Sub Catchments

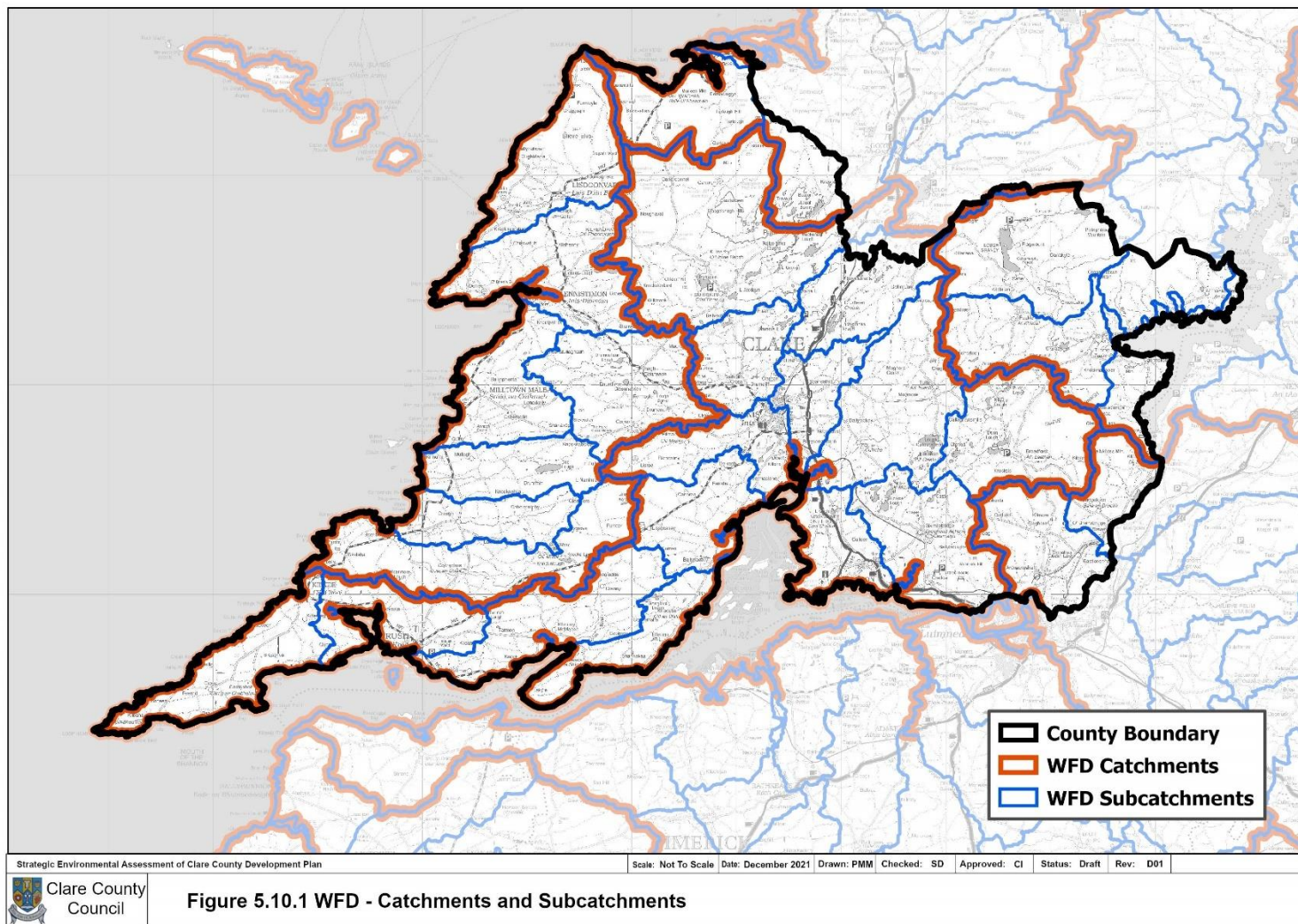




Figure 5.10.2 WFD Surface Water Status (River and Lakes)

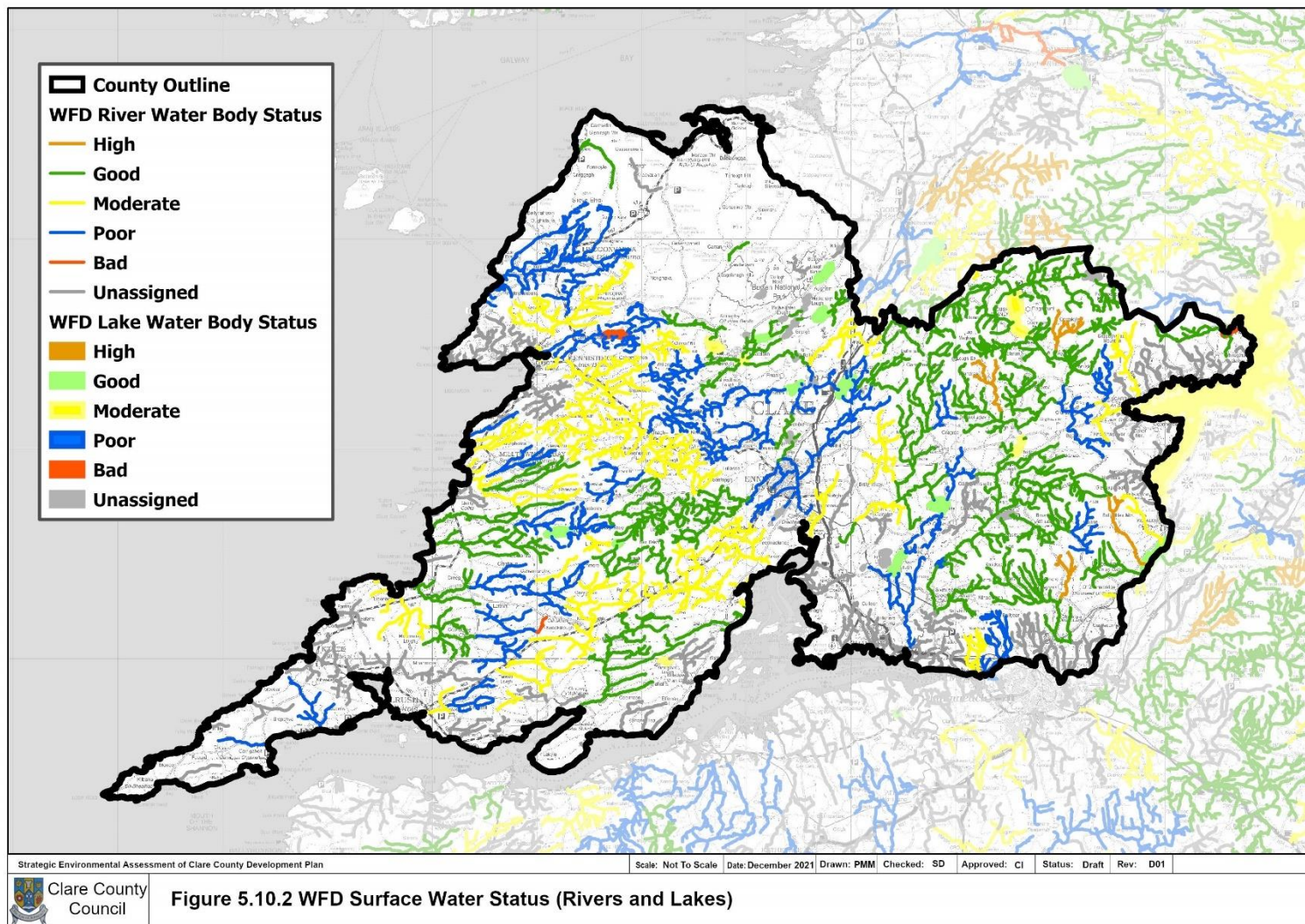
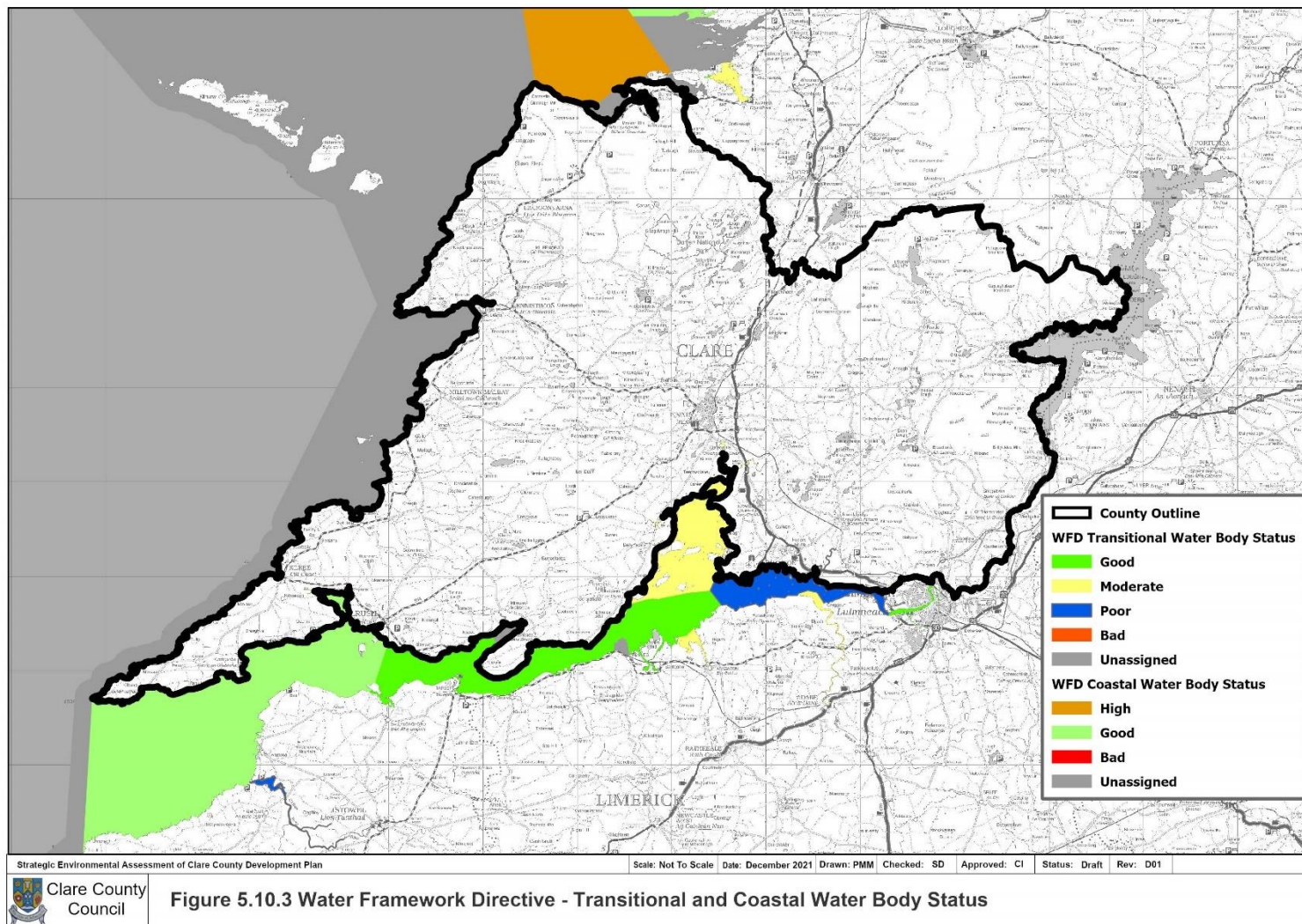


Figure 5.10.3 WFD Surface Water Status (Transitional and Coastal)





### 5.10.6 Groundwater

Groundwater is defined as the water stored underground in formations of saturated rock, sand, gravel and soils. Surface and groundwater are inextricably linked therefore making it difficult to protect from contamination, particularly in such a vulnerable area as the Drumcliff and Pouladower Springs in Ennis and the large karstic areas of the Burren and West Clare. The protection of groundwater from human activity is crucial as the resource is highly susceptible to contamination with long-term consequences for humans and the environment.

The Geological Survey of Ireland (GSI) rates aquifers according to their vulnerability to pollution. Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. **Figure 5.10.4** highlights areas of extreme to low vulnerability. A large area in the County is rated as being of Extreme (X) vulnerability- rock at or within 1m of the surface. In West Clare beyond a line running from Doonbeg to Kilrush and as far west as Cross the vulnerability is classified as Low with pockets of Extreme along the West Coast from Loop Head to Doonbeg. The characterisation of the bedrock aquifer from which the groundwater vulnerability rating partly derives is depicted in **Figure 5.10.5**.

The GSI classifies aquifers, and the classes are divided into three main groups based on their resource potential, and further subdivided based on the type of openings through which groundwater flows. There are nine aquifer categories in total. Regionally important (karstified - conduit) aquifers are generally located to the west of the country, in the Burren/East Galway area. Gravel aquifers are much smaller in number and extent, covering only about 1,221km<sup>2</sup> nationally. In County Clare the aquifer is classified by the GSI as “Locally Important” for the area from Ennistymon to Kilrush. It is classified as “Regionally Important Karstified-conduit” for the area extending from Ennis to North Clare. The Aquifer Classification and & Groundwater Source Protection Zones of County Clare are shown in **Figure 5.10.5**.

Karst features play an important role as conduits for water and pollutants and numerous karst landforms are mapped within the Regionally Important Karstic Aquifer of County Clare. Common karst features can include swallow holes, caves, turloughs and enclosed depressions. The distribution of known karst features is illustrated in **Figure 5.10.7**.

**Figure 5.10.5** shows the WFD Ground Waterbody (GWB) status in County Clare. The Groundwater Body is the management unit under the Water Framework Directive. Overall, the GWB’s within the County are primarily of good status.

Potential pollution sources within groundwater protection zones include numerous small farms, together with illegal dumping, especially in dolines (enclosed depressions) and sinkholes in karstic areas. Much of the area has been developed with scattered rural housing with associated septic tanks. There are also a number of petrol stations within the catchment area, one of which is located close to swallow hole. Incidences of domestic oil tank leakages can also occur posing a potential pollution threat to groundwater.

The WFD groundwater monitoring programme for the assessment of groundwater chemical and quantitative status for 2013-2018 identified one Ground Waterbody in County Clare at poor status.

The basis behind this classification is the presence of the Roche Ireland Industrial facility, an IPPC and IEL licensed facility.



Figure 5.10.4 Groundwater Vulnerability Classification

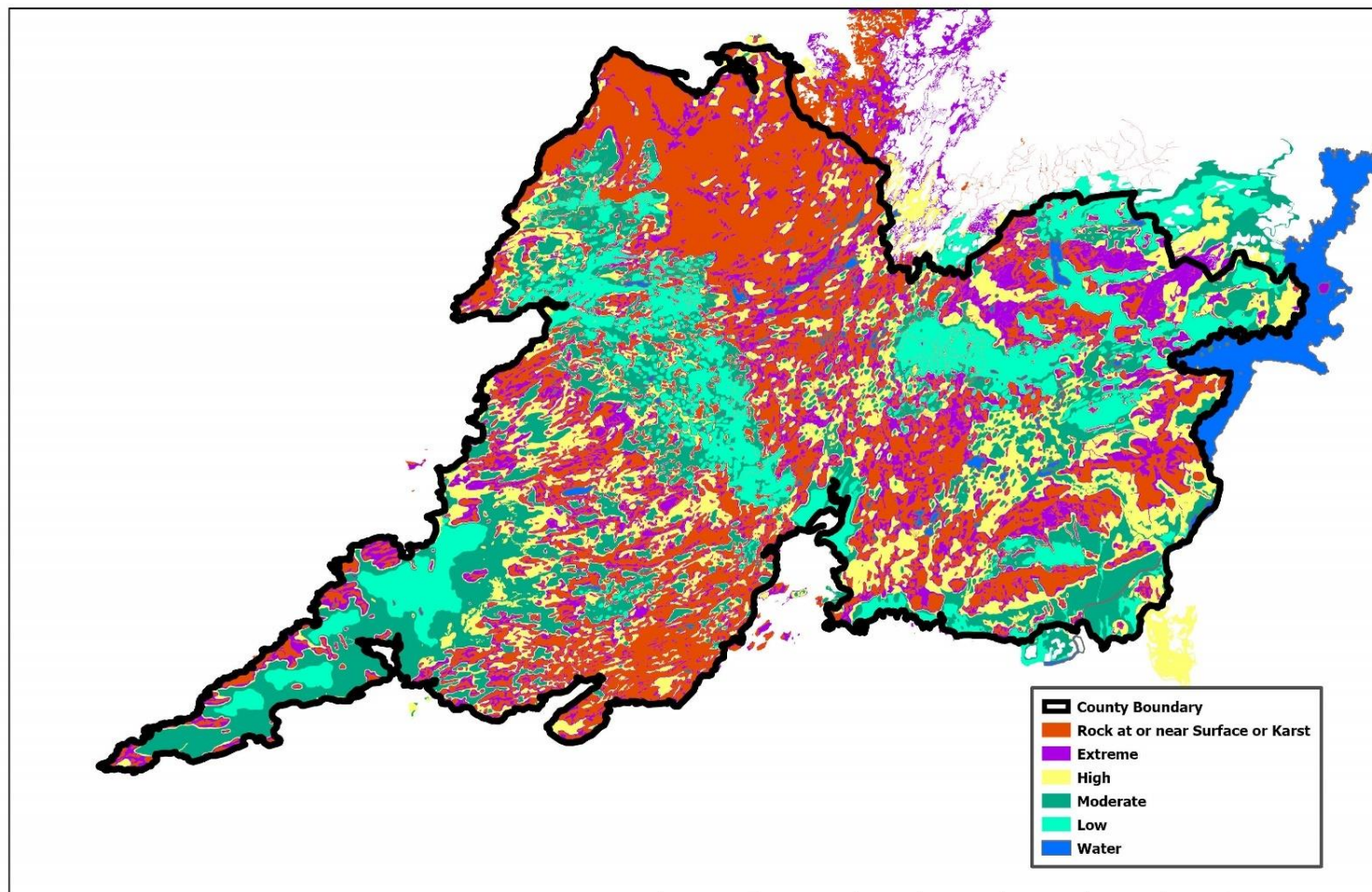


Figure 5.10.5 Groundwater Aquifer Classification & Source Protection Zones

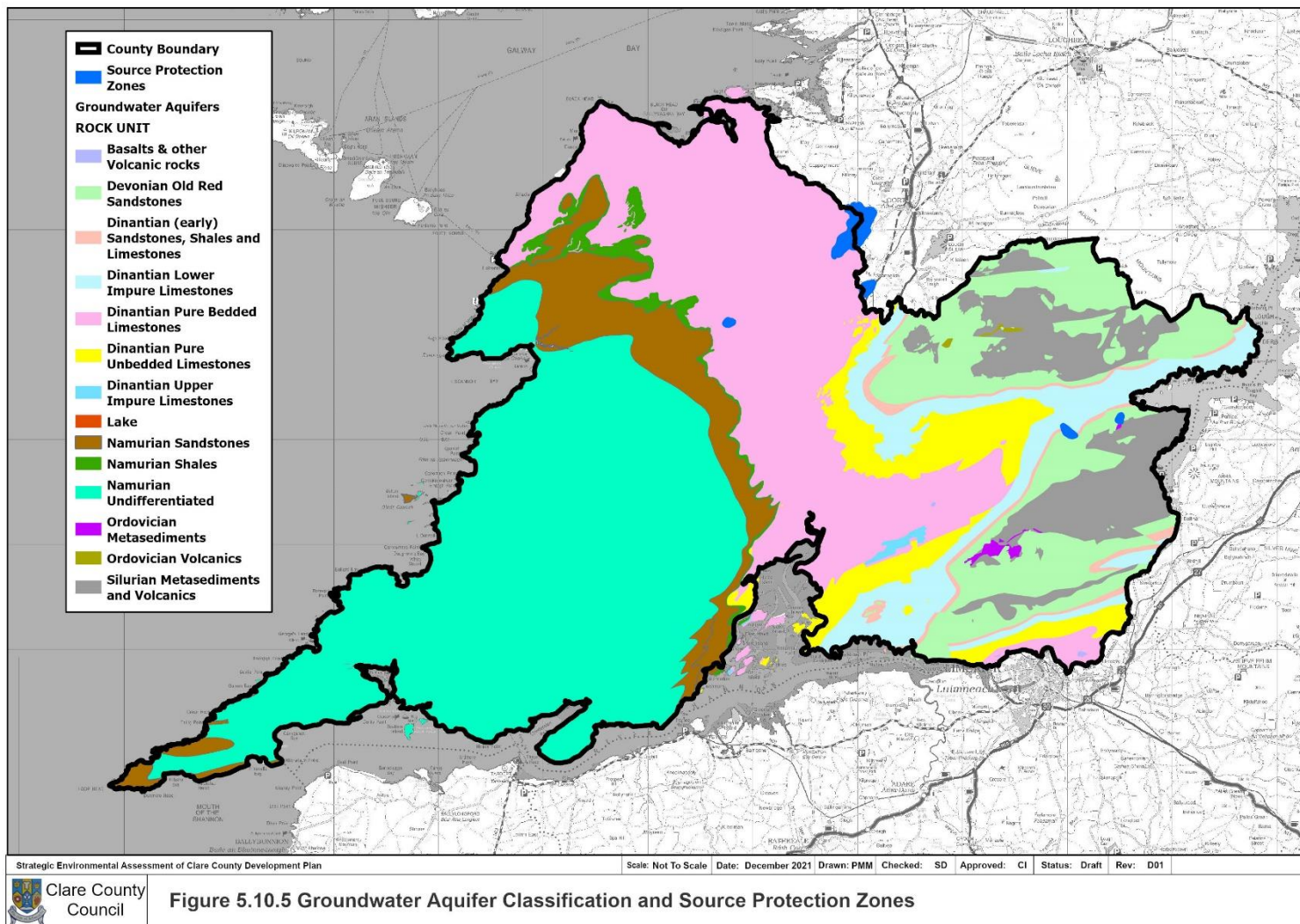
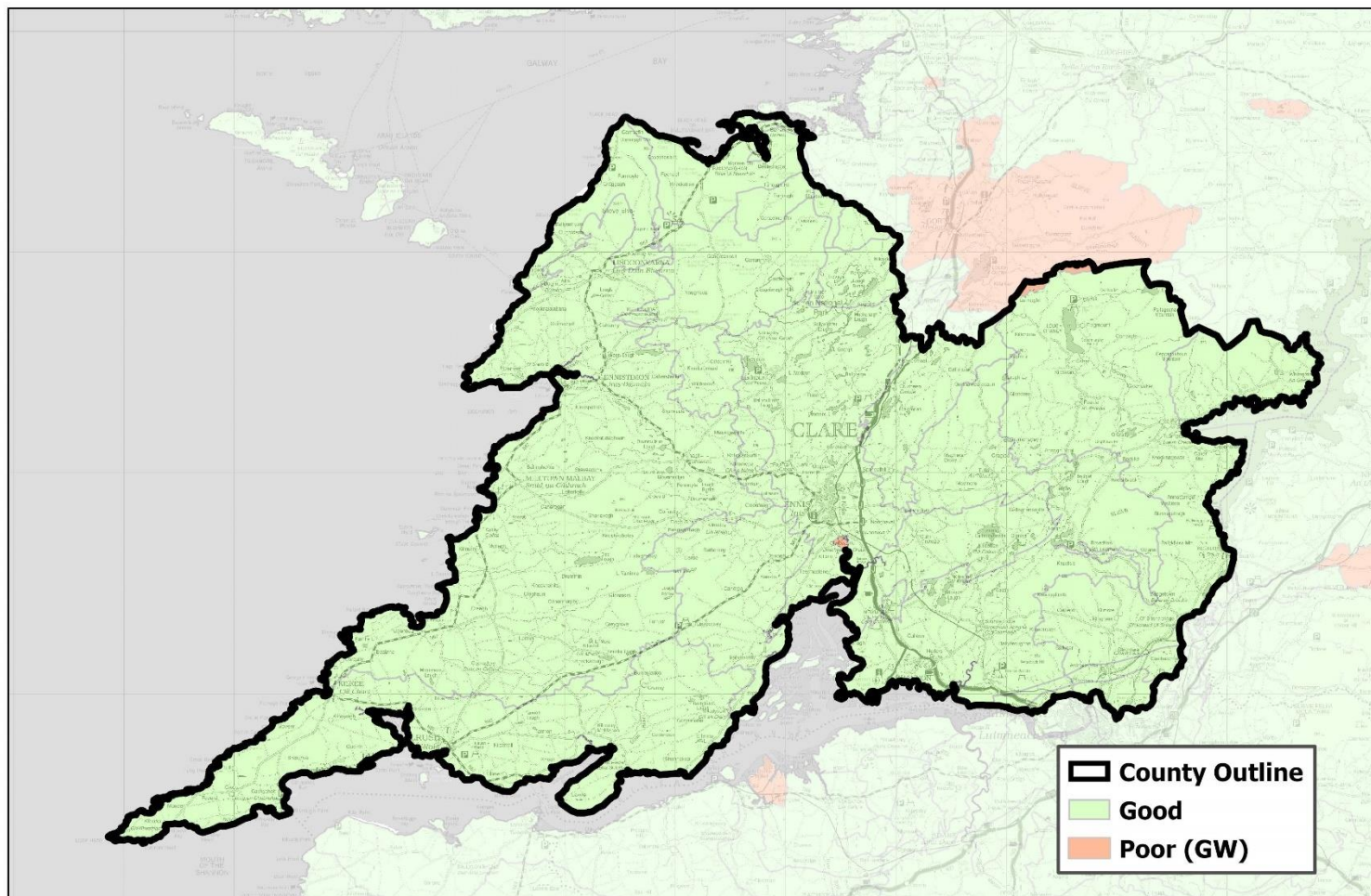




Figure 5.10.6 Groundwater Status



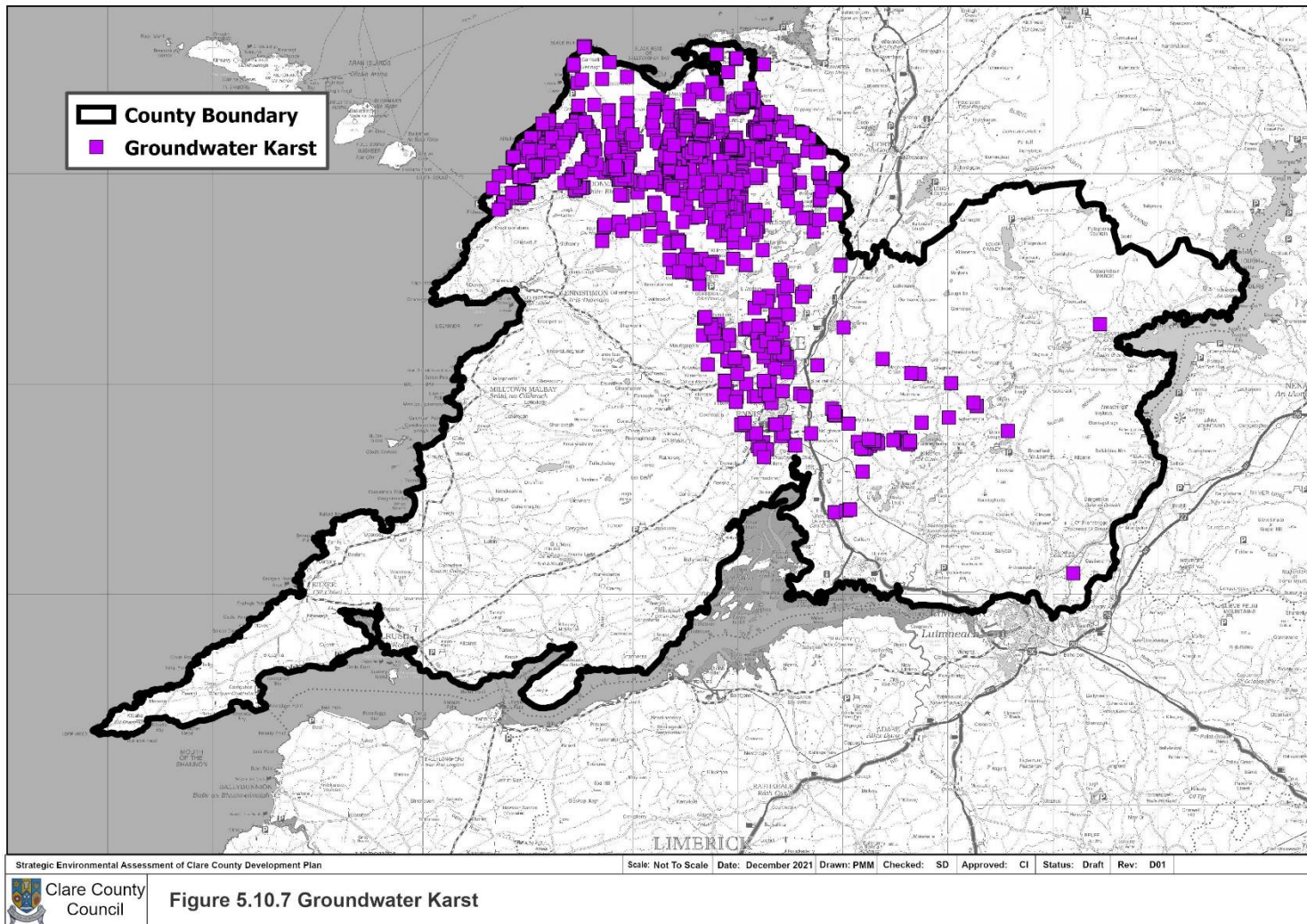
Strategic Environmental Assessment of Clare County Development Plan

Scale: Not To Scale | Date: December 2021 | Drawn: PMM | Checked: SD | Approved: CI | Status: Draft | Rev: D01



Figure 5.10.5 Groundwater Body Status

Figure 5.10.7 Groundwater Karst Features



### 5.10.7 Protected Bathing Waters

The legislation governing the quality of bathing waters is EU Directive (76/160/EEC), transposed into Irish law by the Quality of Bathing Waters Regulations, 1992 (SI No. 155 of 1992). A new Directive on bathing water (2006/7/EC) came into force in March 2006, transposed into Irish law by the Bathing Water Quality Regulations, 2008 (SI No. 79 of 2008), and will repeal the 1976 Directive with effect from 31 December 2014. The 2006 Directive establishes a new classification system for bathing waters (based on microbiological standards) and requires that a classification of at least ‘sufficient’ be achieved by 2015 for all bathing waters.

At present E.Coli and Intestinal Enterococci are used to classify bathing waters into four categories of ‘Excellent’, ‘Good’, ‘Sufficient’ and ‘Poor’ in accordance with the 2008 Regulations. These targets represent a further strengthening of measures to protect public health and amount to an almost two-fold decrease in the levels of microbiological contamination deemed to be acceptable for bathing waters. In addition to this tightening of standards a minimum target of ‘Sufficient’ will be required to be achieved for all bathing waters. County Clare now has 14 monitored bathing waters the most recent beach added in 2020 was Carrigaholt. Carrigholts water quality has not yet been assessed. The remaining 13 bathing waters were monitored and have all achieved excellent quality over the sampling period 2017 --2020 (Quilty was a new monitored beach in 2017 and achieved excellent quality in 2018, 2019 and 2020).

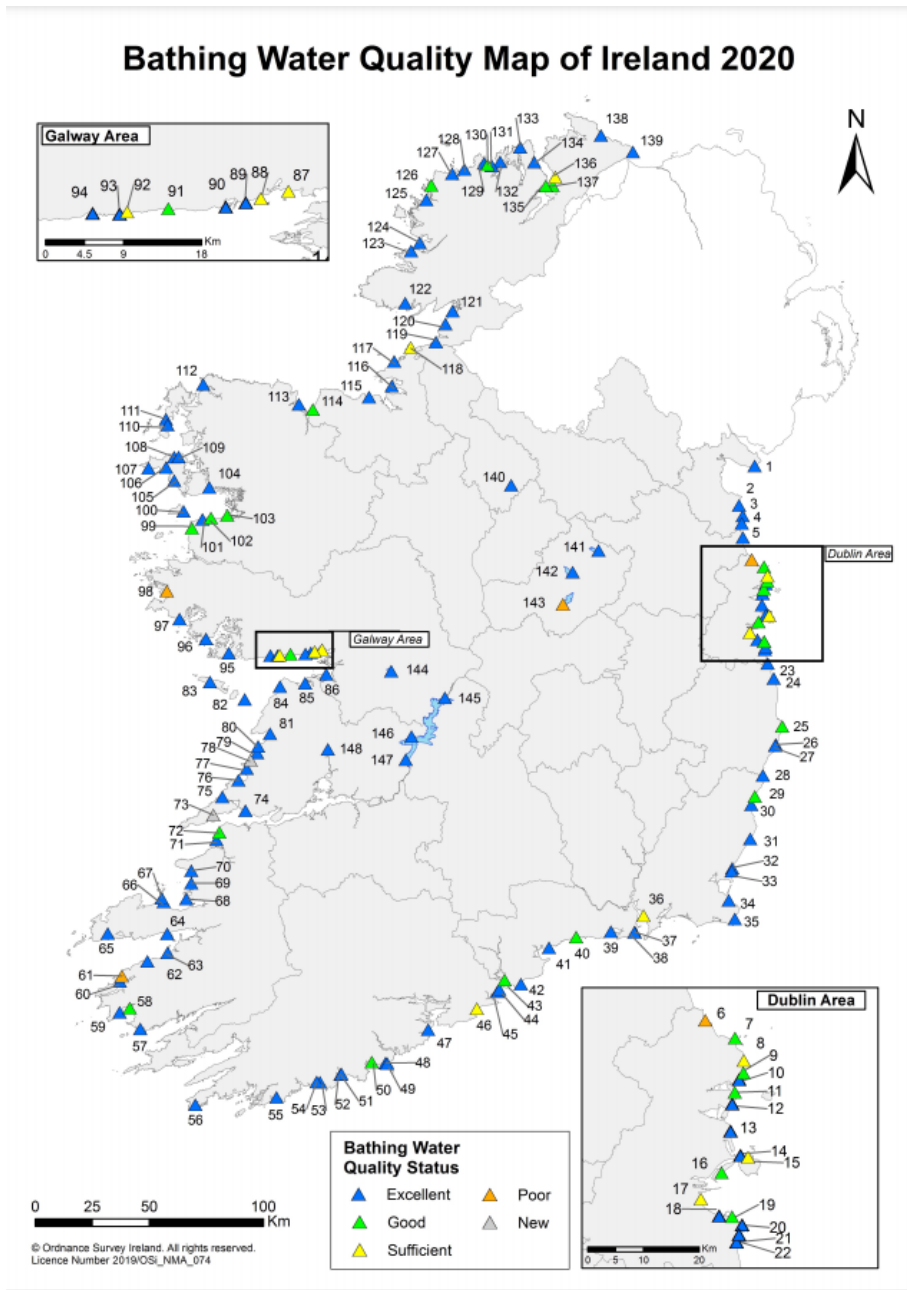
All 14 designated Bathing Waters in County Clare are shown on a map from the EPA’s Water quality in Ireland 2020 report.<sup>46</sup>, as shown in **Figure 5.10.8**, have ‘excellent’ bathing water quality status.

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<sup>46</sup><https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/bathing-water-quality-in-ireland-2020-.php>



Figure 5.10.8 Bathing Water Locations (Courtesy of EPA Water Quality Report 2020)





### **5.10.8 Climate Change and Water Quality and Quantity**

The specific issues of climate change are difficult to predict, but it is likely that they will add to water quality management issues in the future, both in the areas of flood and drought management. Heavier winter rainstorms give rise to flash flooding and land saturation, bringing more significant loads of diffuse pollution into the water bodies. Drought periods can give rise to low water levels and associated difficulties with adequate water quantity for abstraction, to serve the needs of the potable water supply areas. Higher levels of rainfall coupled with a change in the time of year in which we receive these rainfall events will inevitably lead to impacts on water quality. This impact is already being felt on our Bathing Waters where closures are required during the summer period due to the potential impact on human health.

### **5.10.9 Flooding**

Flooding is a major issue in relation to County Clare, particularly over recent years and the issues of flood risk management; through mitigation and adaptation measures and developing overall resilience to climate change are of critical importance. A strategic approach to the management of flood risk is important in County Clare as the risks are varied and disparate, with scales of risk and scales of existing and proposed development varying greatly across the county.

Following the Planning Guidelines, development should always be located in areas of lowest flood risk first, and only when it has been established that there are no suitable alternative options should development (of the lowest vulnerability) proceed. Consideration may then be given to factors which moderate risks, such as defences, and finally consideration of suitable flood risk mitigation and site management measures is necessary.

It is important to note that whilst it may be technically feasible to mitigate or manage flood risk at site level, strategically it may not be a sustainable approach.

Flooding can be exacerbated by development through removal of flood plain and therefore flood storage, by altering watercourses and increasing surface water run-off. Flooding can also pose a threat of water contamination due to inundation of wastewater treatment systems, agricultural run-off and surface water run-off from developments.

Catchment Flood Risk Assessment and Management (CFRAM) Studies have been undertaken and Flood Risk Management Plans (FRMPs) have been prepared in line with the European Directive 2007/60/EC (Floods Directive). It requires member states to carry out preliminary flood assessments in order to identify areas of potentially significant flood risk, or Areas for Further Assessment (AFA).

The OPW published in early 2018 individual FRMP for each of the 29 River Basins assessed as being at potentially at significant risk of flooding. The FRMP relevant to County Clare is the Shannon Estuary North & Mal Bay River Basin. Areas of Further Assessment (AFAs) within the County include Ennis, Shannon, Kilrush and Kilkee.

Each CFRAM Study has produced flood maps and flood risk management objectives. The CFRAM programme is central to the medium to long-term strategy for the reduction and management of flood risk in Ireland. Flood extent mapping for fluvial, pluvial and coastal flooding is available on the OPW's

dedicated flood map viewer.<sup>47</sup> River Flood Extents and Past Flood Events within County Clare are shown in **Figure 5.10.9**.

### **Requirements for a Flood Risk Assessment**

In 2009 the OPW's *'The Planning System and Flood Risk Management Guidelines for Planning Authorities'* was published which ensures that flood risk assessment and management is incorporated within the planning system and is of relevance for development occurring at or near the coast. In relation to flooding, it is important to ensure the resilience of any RE infrastructure or development (which may include windfarms, solar farms etc) to the effects of climate change, including flood protection of assets, and ensure that sectoral activities do not increase flood risk of other development located downstream within a catchment.

The Strategic Flood Risk Assessment accompanying the CDP will assist in identifying appropriate areas for development. Flood alleviation works that have been undertaken and are in the pipeline will aid in the management of flood waters in protecting the main settlement areas within the county.

An appropriately detailed flood risk assessment will be required in support of any planning application for development within a Flood Zone A or B. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development, including that in Flood Zone C, must consider the impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial and tidal should be reviewed.

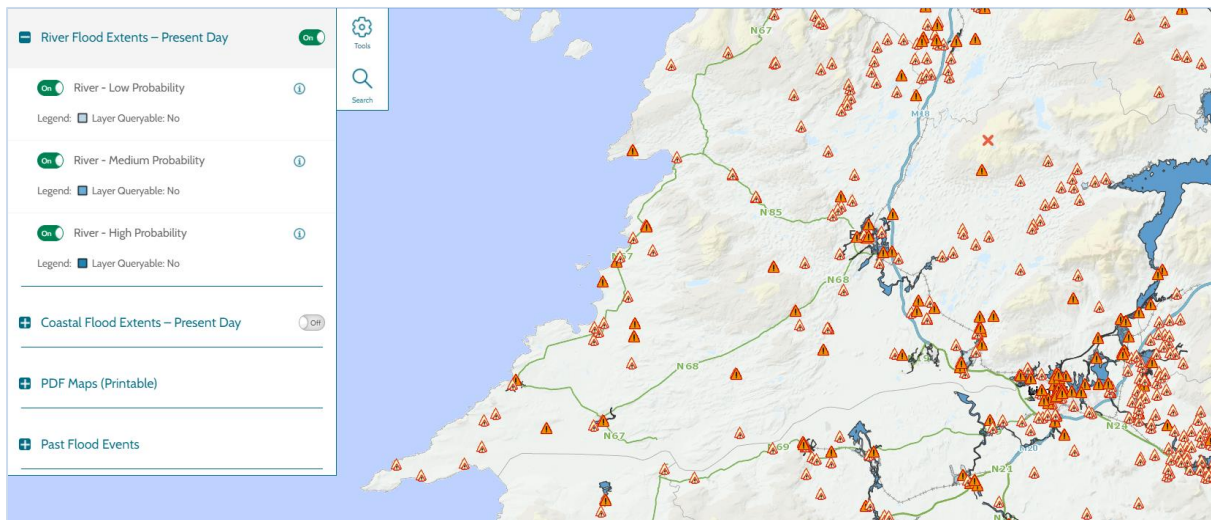
For sites within Flood Zone A or B, a site specific "Stage 2 - Initial FRA" will be required and may need to be developed into a "Stage 3 - Detailed FRA". The extents of Flood Zone A and B are delineated through this SFRA. However, future studies may refine the extents (either to reduce or enlarge them) so a comprehensive review of available data should be undertaken once a FRA has been triggered.

Within the FRA the impacts of climate change and residual risk (including culvert/structure blockage) should be considered and remodelled where necessary, using an appropriate level of detail, in the design of finished floor levels. Further information on the required content of the FRA is provided in the Planning System and Flood Risk Management Guidelines.

Any proposal that is considered acceptable in principle shall demonstrate the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required), the proposal will demonstrate that appropriate mitigation and management measures are put in place.

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<sup>47</sup> OPW Flood Maps Viewer: <https://www.floodinfo.ie/map/floodmaps/>

**Figure 5.10.9 River Flood Extents and Past Flood Events within County Clare**

### 5.10.10 Water Conservation

Clean potable water is an important resource that must be protected and conserved. Slightly lower than the national average of 42%<sup>48</sup> it is estimated that 37%<sup>49</sup> of the water supplied in County Clare is lost as a result of leakage as well as illegal use of water. The Ennis Water Supply Scheme has one of the highest levels of water leakage in Co. Clare. The production and treatment of the supply of water must be managed in a sustainable manner. In line with national policy and priorities of Irish Water's National Leakage Reduction programme, the Local Authority will comply with the requirement to measure water flow in specific areas of the network to identify the levels of leakage and to assist in the objective to conserve water.

### 5.10.11 Issues and Threats

Ireland has seen continuing decline in high status water bodies and an increase in the number of water bodies in poor ecological health. The EPA State of the Environment Report 2020 notes that almost half of Ireland's surface water bodies (river, lake, transitional and coastal) are failing to meet their objectives under the WFD. For the water quality reporting period 2013-2018, just over half of Ireland's water bodies (53%) were at Good or High-status ecological status.

An understanding of the significant pressures these water bodies are under and interaction with any marine/land based renewable energy projects is critical.

There continues to be a decline in the number of water bodies reaching or maintaining High ecological status, with only 20 sites reaching Q5 status compared to 500 30 years ago, and an increase in the number of the most polluted water bodies.

In terms of chemical status in surface waters, while some ubiquitous priority substances (e.g., hydrocarbons) continue to be present in some water bodies, use of herbicides is widespread. Three-quarters of surface water bodies assessed for chemical status over the 2013-2018 period had Good chemical status. The majority of groundwaters (92%) have Good chemical status, and 99% have Good quantitative status i.e., rainfall replenishment of groundwater is generally able to sustainably support

<sup>48</sup> <https://www.cru.ie/wp-content/uploads/2020/08/CRU20089-Energy-and-Water-Monitoring-Report-for-2019.pdf>

<sup>49</sup> Figure collated by the National Oversight and Audit Commission, 2015

current abstraction volumes. The Cycle 2 RBMP flagged 6% of groundwater bodies as requiring further assessment for abstraction pressures.

The key pressures on water bodies continues to be agriculture (nutrient run-off and sediment, point pressures such as farmyards), followed by hydromorphological issues (e.g., land drainage, channelisation), urban wastewater discharges and forestry, as well as other pressures. The key nutrients pressures are from phosphorus (the dominant nutrient of concern for surface waters) and nitrate (a particular problem in the south and south-east, as well as for groundwaters). Invasive or alien species remain a problem.

The significant pressures for river and lake water bodies within County Clare include<sup>50</sup>;

- Agriculture
- Anthropogenic (include nutrient, chemical, microbiological, organic and sediment pollution.
- Domestic wastewater
- Forestry
- Hydromorphology
- Industry
- Urban runoff
- Urban wastewater
- Abstraction
- Invasive species

Aquifer vulnerability is Extreme in large areas of the County which will require consideration during construction stage of any renewable energy infrastructure. Large areas of the county are classified as a Regionally Important Aquifer meaning a dependence on groundwater as a supply therefore the potential to impact on groundwater supplies and the limitations in terms of development in proximity to groundwater source protection zones will require consideration.

Karstification is widespread in the northwest of the County, infrastructure development will require careful avoidance and consideration of both known and unknown karst features in terms of potential collapse and the possibility for karst features to become conduits for pollutants to enter.

The provision of a good quality water supply is a critical requirement for attracting investment in the county. The volume of water lost through leakages in pipe infrastructure is not only a local or county level issue but a county wide issue. While a significant pipe rehabilitation programme is underway through Irish Water's National Leakage Reduction Programme, further education and information on water conservation and usage for water users is needed.

The significant pressures for ground water bodies within County Clare include;

- agricultural
- anthropogenic

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<sup>50</sup> 2<sup>nd</sup> Cycle significant pressures, data available via catchments.ie mapping

For the Marine environment the key drivers of pressures and impacts arise from anthropogenic sources such as litter, climate change, noise and pollution events. Ocean warming and acidification are driven mainly by climate change. These pressures can exacerbate other issues such as impacting native biodiversity, facilitating expansion or spread of invasive or opportunistic species. Increased flows in rivers could also facilitate increased nutrient transport to the marine environment, combined with climate change, are expected to increase the risk of algal blooms.

Marine litter affects ocean life and pollutes beaches, the water column and the seafloor. Dredging and dumping at sea is required for maintaining ports and navigational channels and is a licensable activity in Irish waters. Underwater noise is also increasing globally and related primarily to human activities (e.g. for drilling, extraction, navigation and data imaging purposes). Marine life is often sensitive to noise impacts, particularly whales and dolphins. Seaweed harvesting is another human activity which may impact on coastal biodiversity, particularly where large-scale commercial activity takes place. Commercial fisheries and aquaculture also place pressure on the marine environment through overfishing/discards of target species and bycatch of non-target species, disruption/destruction of habitats and species from trawling and dredging. Discharges of waste from fish farms is another issue, as is introduction of non-native species or pharmaceuticals for parasite control/anti-fouling agents. Escaped farmed species for instance may impact on the genetic integrity of wild stocks, and there are also landscape/seascape impacts from aquaculture gear. Irish fish stocks have declined due to overfishing and disturbance. Key aspects such as the locations/use of some nursery habitat/feeding areas remains poorly understood; 34 stocks (18%) achieved GES, 44 (22%) did not, with the status of 99 stocks unknown. Disturbance and impacts to seafloor habitats (e.g., from bottom trawl fishing gear) are widespread in Ireland’s continental shelf area (46% of the assessed area is highly disturbed), but not all of the maritime area has been assessed.

The significant pressures for transitional water bodies within County Clare include;

- Anthropogenic;
- Agriculture; and
- Hydromorphology

#### **5.10.12 What would happen to the water resource without implementation of the CDP?**

The eleven existing directives outlined under Article 11 of the WFD would continue to be implemented and enforced for the third cycle of the River Basin Management Plan (RBMP) covering the period 2022-2027, also taking account of the most recent status of water bodies, the outputs of the risk characterisation process as well as the lessons learned from the implementation of the first and second cycle. The Irish Water Business Plan, Water Services Strategic Plan and National Water Resources Plan, would take place independently of the CDP with the expected investment resulting in the provision of new or upgraded plants in 105 agglomerations, leading to some improvements in some water bodies. The existing planning system will need to account for water quality and refer to the programme of measures implemented through the RBMP.

However without the CDP, water quality is likely to deteriorate due to unplanned development and lack of protection from policies. There is a legislative requirement under the WFD to achieve good

status of all water bodies. While efforts to achieve this would continue in the absence of the CDP, the Plan will aim to ensure that the use of and mitigation measures for such waters are given due regard in all development proposals arising from the CDP.

#### 5.10.13 Data Gaps/Problems

The water quality baseline data is broad. Problem areas will be defined more specifically if more water quality testing locations were introduced across the county. Water Quality Records are continually being monitored. The most up to date information has been utilised but it is accepted this may change during the Plan making process and will be updated accordingly.

#### 5.10.14 Inter-relationship / actions with other environmental parameters

Water quality has a strong inter-relationship with all environmental parameters

|   | PHH | SG | AC | BFF | L | CH | MAT | MAW | MAWS | MAWW | MARE |
|---|-----|----|----|-----|---|----|-----|-----|------|------|------|
| W | √   | √  | √  | √   | √ | √  | √   | √   | √    | √    | √    |

(BFF = Biodiversity, Flora and Fauna; PYHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Climatic Factors; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Wastewater; (MA)RE = Renewable Energy; CH =Cultural Heritage

#### 5.10.15 SEA Recommendations

| SEA Recommendations – Water   | Inclusion in the Plan  |
|---|--|
| The provision of a good quality water supply is a critical requirement for attracting investment in the county. The volume of water lost through leakages in pipe infrastructure is not only a local or county level issue but a county wide issue. While a significant pipe rehabilitation programme is underway through Irish Water’s National Leakage reduction Programme, further education and information on water conservation and usage for water users is needed.<br><br>Water conservation should be a priority in increasing water supply. | Yes, through the inclusion of CDP Objective 11.28 & 11.30.   |
| Protection of European sites should be a priority when selecting sites for drinking water abstraction.  | Yes, through the inclusion of CDP Objective 11.28 and specifically part C of this objective.                               |
| Issues in relation to climate change and the impacts on water supply and water quality need to be incorporated into the Plan. Although uncertain in terms of how climate change will fully manifest itself, the observed changes and anticipated future change in precipitation patterns and air temperatures e.g. water conservation through on-going pipe rehabilitation, promoting use of grey water and rainwater harvesting.   | The interrelationship between climate change and the impacts on water quality and supply are inherent throughout the Plan. |



|   |  |
|---|--|
| The protection of our Bathing Waters within the County should be prioritised.   | This is achieved through the inclusion of CDP Objective 13.14 relating to the implementation of the Bathing Water Directive.                   |
| Register and mapping of contaminated sites.   | This is included as an objective in the Plan through the requirement to undertake due diligence and remedial works for all contaminated lands. |
| Register and mapping of oil leakages.   | This is not included as an objective in the Plan but can form part of a long-term monitoring initiative.                                       |
| Promote the need for compliance of dry cleaners and vehicle refinishing facilities with the 2014 Regulations and to ensure a best practice approach in relation to operation and waste disposal to remove the risk of discharge and subsequent contamination of surface and/or ground waters. | This is not included in the Plan, however monitoring compliance can form part of a long-term monitoring initiative                             |
| The measures required for protection of water quality need to be seen as an integrated approach incorporated into the numerous aspects of strategic planning and land use zoning.   | This is strongly achieved across a broad range of objectives within the CDP.   |
| Flood Plains as natural flood storage areas should be protected from development.   | Yes, incorporate through the zoning analysis in Volume 3 and the associated SFRA.  |

## 5.11 Material Assets

### 5.11.1 Introduction

Material assets are defined as the critical infrastructure essential for the functioning of society such as water supply, wastewater treatment, transportation etc. This section will address the following:

1. Transportation
2. Waste Management
3. Water Supply
4. Wastewater Treatment Infrastructure
5. Renewable and alternative energy

### 5.11.2 Transportation

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

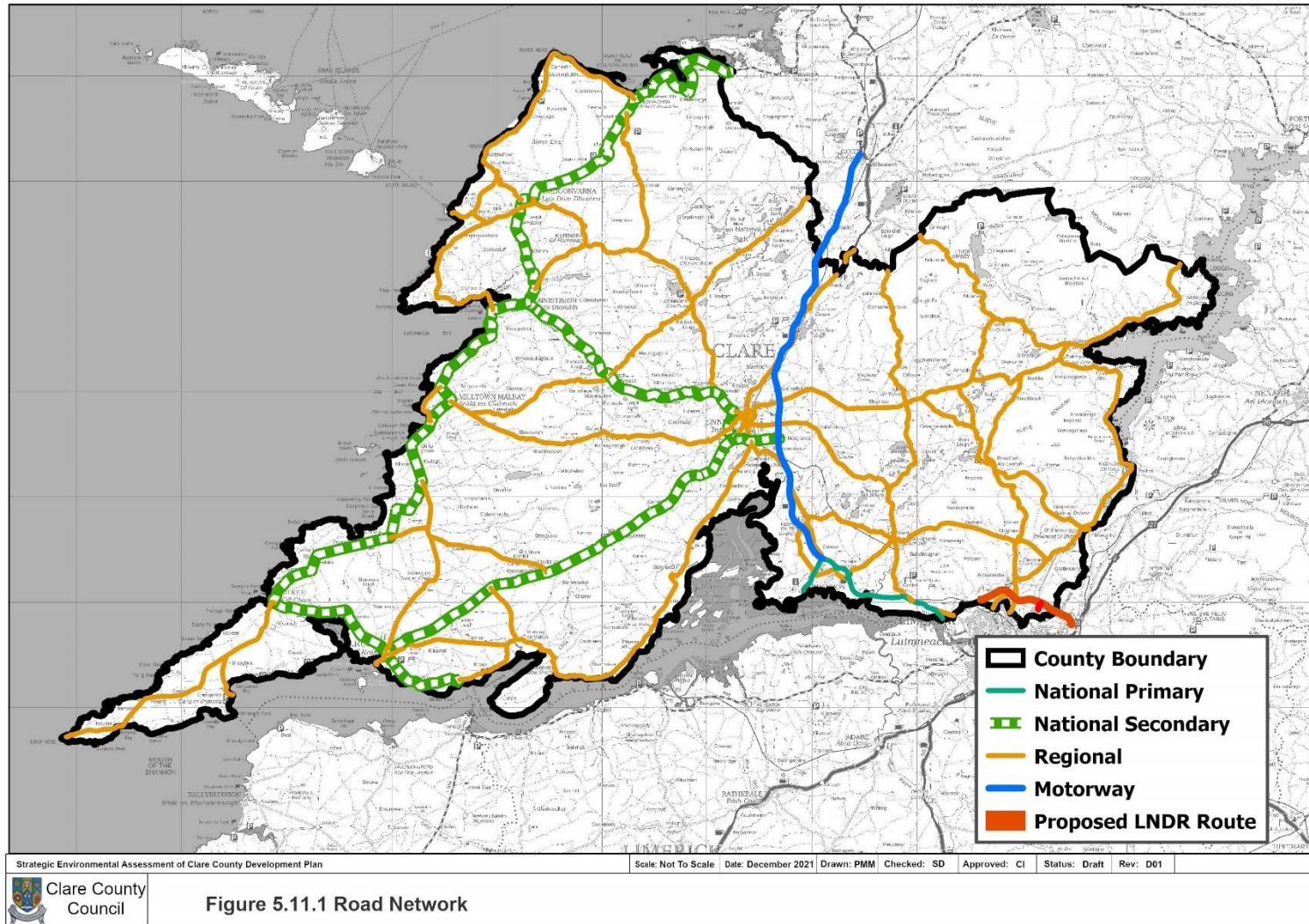
#### Road Network

The road network in the county is made up of motorway, national primary roads, and national secondary roads, regional and local roads. County Clare has a large rural area with a dispersed population with the result that the car is the predominant mode of transport. The maintenance and upgrade of the existing road network and, where necessary, the provision of new road networks or realignments are essential to achieve modern high standards.

The existing main roads include; the M18 motorway which by-passes Ennis, connects the town to the national motorway network and two National Primary Routes, the N18 Galway-Limerick motorway and the N19 which starts at Shannon Airport and leads on to the N18. (See **Figure 5.11.1**). The National Secondary roads include the N85 Ennis-Lahinch, N67 Killimer-Ballyvaughan and the N68 Ennis to Kilrush routes.

The M18 has much improved road connectivity nationally, reducing travel times significantly to Dublin, Cork, Limerick and Galway, with the final section between Gort and Galway now completed. It has also contributed to a significant benefit in reduced local travel patterns to places of employment, including Shannon. The Limerick Northern Distributor Road (LNDR) is a policy objective of both Local Clare and Limerick Local Authorities, supported most recently by its inclusion as a *National Enabler* in the adopted RSES. Historically, the need for the Scheme was identified in the Limerick Planning, Land Use and Transport Study. Phase 1 of the LNDR from Coonagh to Knockalisheen is currently under construction.

Figure 5.11.1 Road Network



## Bus Network

Bus Éireann operates regular services from their centrally located newly refurbished bus station to Shannon Airport, Galway, Limerick, Cork and Dublin. Private operator, Dublin Coach also operate several (up to 25 during peak times) daily express services between Ennis, Limerick, Kildare and Dublin. Bus Éireann also provides an infrequent service from Ennis to north and west Clare and a regular service to Shannon Airport.

Local Services are provided for by Clare Bus, a not-for-profit bus service, which has a large number of routes that connect Ennis with its extensive rural hinterland. The services provided are designed to support communities and increase transport options at a local level while opening up access to the national transport network. The route schedules connect with national transport links provided by Bus Éireann, Dublin Coach and Irish Rail in Ennis.

Transport For Ireland (TFI) Local Link Limerick Clare has expanded its services in Clare, including the first rural regular services that will run five to seven days a week. The service was launched in March 2021 with the new Local Link route 337 showcasing the Shannon Estuary Way serving Labasheeda, Kildysart, Ballynacally, Kilmurry McMahon, Knock, Killimer, the ferry terminal, and world-famous fishing sites three times a day from Monday to Saturday with a reduced timetable on Sundays.

Local Link will provide access to these areas for staycations and tourists as well as facilitating local resident's transportation needs, providing connectivity between Kilrush and Ennis. The need for the expansion of Local Link services was voiced by the local communities, community groups, Clare County Council and Elected Representatives during a period of public consultation in February 2020.

Working with the NTA's Connecting Ireland Team, Local Link Limerick Clare focused on merging the Bus Éireann rural services in Clare that were reconfigured under the July Stimulus and enhancing the services to meet the needs identified by those who took part in the public consultation.

## Rail Network

The rail services within County Clare consist of a branch off the Limerick line which serves Ennis. The Draft Limerick Shannon Metropolitan Area Transport Strategy promotes an integrated transport strategy for walking, cycling, bus, rail and road to support planned growth up to 2040. The Western Rail Corridor underwent significant upgrades with 36 miles of track and associated infrastructure, as well as the provision of five stations at Gort, Ardahan, Craughwell, Sixmilebridge and Oranmore. Ennis is situated on the western rail corridor which has undergone substantial investment over recent years. Ennis rail and bus station is located within walking distance of the town centre of Ennis. There are park and ride facilities at the station. The regular routes serviced from Ennis include a Limerick/Dublin service, Limerick/Cork/Tralee and Galway/Limerick services. There is no rail line serving Shannon, with the closest station located in Sixmilebridge, approximately 6km east of Shannon town centre. Bus route 343 operated by Bus Éireann provides an infrequent connection between Shannon Town Centre and Sixmilebridge station. It is noted that the Shannon Town and Environs Local Area Plan includes an objective to link Shannon with Sixmilebridge station via a direct shuttle bus in the short-term. The draft LSMATS indicates that connectivity to Shannon will be significantly improved over the lifetime of the Strategy with existing bus services being enhanced with some new additional services, including

the better linking of Sixmilebridge Train station to Shannon Airport together with exploring the potential for a new rail line spur to Shannon Town and Shannon Airport. At present, flooding frequently closes the Limerick-Ennis line at Ballycar causing severe disruption to the LSMA Rail Network. Iarnród Éireann are currently investigating a technical solution to alleviate this flooding. In line with Objective RL8 of the Draft LSMATS the Clare County Development Plan should support the intention of the NTA and the local authorities to work in collaboration with Iarnród Éireann and other relevant stakeholders to resolve the localised flooding issue on the Limerick-Ennis line at Ballycar.

## **Air**

Shannon Airport is located within the southern part of the county. It is a critical element of the transport network in the region with both a national and international role. It is strategically located between Limerick and Galway with capacity to serve an increased market to the west should future development take place in the Shannon Estuary which requires air transport. The Airport boasts the longest runway in Ireland, at 3,199 metres in length, 45 metres wide and in operation 24 hours per day, 365 days per year with 24 stands. The Airport has both scheduled and chartered flights to a range of destinations and has 30 aircraft stands. Passenger numbers in 2017 was 1.75 million but existing infrastructure at Shannon has the capacity to deal with 4.5 million passengers without additional investment. The RSES for the Southern Region identifies Shannon International Airport as an International Gateway to the West of Ireland with an ambition to increase connectivity and create a rail link between Limerick City and Shannon International Airport. The 2017-2023 CDP contained an infrastructural safeguard for a rail line to be provided to Shannon town and International Airport. This should be supported and promoted within the new CDP 2023-2029. In addition, prioritisation must be given to progressing improvements and upgrades to the existing N19 road access from the motorway to Shannon International Airport. Aviation is vital to the future business of the county in terms of tourism and trade and connectivity between airports and public transport together with key nodal points within the county is a key element of this. There is an opportunity to expand the international offering at Shannon Airport through linkages with Cruise Shannon Estuary. In support of the development of the Shannon Estuary as a cruise destination, *Cruise Shannon Estuary* is an initiative led by Shannon Foynes Port Company and supported by Kerry County Council, Limerick City and County Council and Clare County Council. Shannon Foynes Port Company is committed to growing this industry and establishing the Port as one of the top destinations for cruise liners in Europe. Cruise Shannon Estuary will attract expedition cruise ships which will be provided with the opportunity to tender passengers to Cahiracon Pier offering a unique experience for its passengers to experience the Clare Coastline first hand and to further explore the county from this unique landing point. A feasibility study is currently being prepared in order to establish the requirements of ensuring Cahiracon Pier is ready to accept tourists in 2022. Through ensuring strong connectivity from Shannon International Airport by road and rail there is an opportunity to offer Shannon Airport as a start and finishing point to the cruise sector linking by road to Cahiracon or Foynes.

### **5.11.3 Climate Change and Transportation**

Transportation networks will increasingly need to adapt to cope with effects of a changing climate evidenced by an increase in incidences of flooding and high temperatures resulting in droughts, both attributable to a recognised trend of an increase in extreme weather events. Resilience to these changes needs to be integrated into future and existing networks and services in order to maintain an efficient transportation network. This could materialise in a number of ways, for example, by



improving cooling and heating systems within vehicles; provide adequate surface water attenuation ponds to cope with increased levels of surface water as result of increased rainfall; integrate and plan provision of alternative service route options for public and private transport networks where areas are known to experience flooding.

#### **5.11.4 Waste Management**

Clare falls under the Southern Region Waste Management Plan area for which the management plan was published in May 2015. Within the County Development Plan Area there are a range of waste recycling facilities which include 5 recycling centres and transfer stations as follows;

- Central Waste Management Facility, Inagh
- Ennis Recycling Centre, Ennis
- Lisdeen Recycling Centre and transfer station, Kilkee
- Scarriff recycling centre and transfer station, Scarriff
- Shannon recycling centre

Domestic and commercial waste collection is undertaken solely by private permitted collectors, which include waste separation to aid waste recycling. There is an extensive education and awareness programme of waste prevention initiatives in order to minimise waste going to landfill.

Cork County Council has been appointed Lead Authority for Waste Enforcement in the Southern Region in 2015. The Southern Region extends from Counties Kerry and Clare on the west coast to County Wexford on the east coast, and includes the Counties of Cork, Limerick, Tipperary, Waterford, Carlow and Kilkenny and includes Cork City. Cork County Council will now take on the responsibility of co-ordinating and overseeing the enforcement of waste regulation on behalf of all 10 local authorities in this large region thereby ensuring a consistent and equitable approach is taken to providing a “level playing field” for all stakeholders in the industry. Following the publication in 2012 of "Putting People First" government policy has been moving towards the delivery of certain public services on a regional basis. The Regional Framework recognises 3 no. regions, Southern Region, Connaught/Ulster Region, and the East/Midlands Region. Government waste policy as outlined in "A Resource Opportunity" 2012 recognises that to protect Ireland's environment and the health of its citizens, a consistent and effective approach to enforcement of the regulatory framework is required.

#### **5.11.5 Water Services Infrastructure**

The responsibility for the provision and management of water services (water supply and wastewater but excluding storm/surface water other than where sewage has been combined with surface water) was transferred to Irish Water on the first of January 2014. Whilst Clare County Council no longer has a remit in the management and provision of water and wastewater infrastructure, this development plan sets out the water services infrastructure priorities for residents, business and stakeholders in Clare. Irish Water is responsible for the provision of public water supply, wastewater collection and treatment services. It is an objective of Irish Water to provide both drinking water and wastewater capacity to support national, regional and local economic and spatial planning policy (subject to the constraints of the Irish Water Capital Investment Plan). Clare County Council retains its role in facilitating the provision of adequate water services, in conjunction with Irish Water, at a local level, through Service Level Agreements (SLAs).



## National and Regional Policy

Since the publication of the 2017-2023 County Development Plan planning policy and direction provided in the National Planning Framework and the recently adopted Southern Regional Spatial and Economic Strategy has changed the policy direction in relation to the sustainable management of water supply and wastewater needs. The focus therefore by Irish Water in line with RPO 209 of the RSES for the Southern Region is to support investment and the sustainable development of strategic water supply projects together with RPO 2011 and 212 with respect to wastewater where the focus is on supporting investment and the sustainable development of strategic wastewater treatment facilities in line with the IW Investment Plan. Given the rural nature of County Clare and the key focus of this Plan to allow for compact, sustainable growth rural wastewater treatment is a key concern. RPO 213 provides an objective to *“support investment in the sustainable development of rural wastewater treatment programmes and supports the initiatives of Irish Water, local authorities, communities and developers in small rural settlements to identify **sustainable solutions** subject to available funding for such services...”*. This objective will be key in allowing the sustainable development of our small towns and villages.

The 7 designated ‘Small Towns’ in County Clare are Kilkee, Killaloe, Lisdoonvarna, Miltown Malbay, Newmarket-on-Fergus, Sixmilebridge and Tulla and these towns are of fundamental importance as employment and tourist centres and for the provision of services and facilities for their resident populations and their rural hinterlands. The strategy for these settlements is to ensure that their existing roles are maintained and further strengthened through measures such as the adequate zoning of lands for development, supporting the concept of settlement networks, seeking investment to regenerate and rejuvenate these settlements, supporting and working with the relevant bodies towards the development of the required ancillary infrastructure (including innovative solutions for wastewater treatment), and the adoption of a facilitatory approach towards appropriately-scaled and designed urban development.

It is recognised that some of these towns have not been in a position to fulfil this role due to deficiencies in water and wastewater services and every effort must be made to ensure that these deficiencies are addressed over the lifetime of the Plan.

The Small Villages of County Clare (i.e. 39 are included in the Settlement Hierarchy) have a predominantly rural character with some public/community services such as a church, school, shop, etc. Their attractive character and community infrastructure, provide opportunities for ‘sites for independent development’ and low density ‘cluster’ style residential developments to act as viable alternatives to single housing in the countryside (subject to appropriate innovative design solutions for the treatment of wastewater) and the Council will seek investment through funds such as “New Homes in Small Towns and Villages” in this regard. In addition to small-scale, incremental residential growth appropriate commercial or employment-generating developments that are of a scale and nature that is sympathetic to the existing village will also be encouraged. Both residential and commercial growth in these settlements will be monitored over the Plan period.

## Water Supply

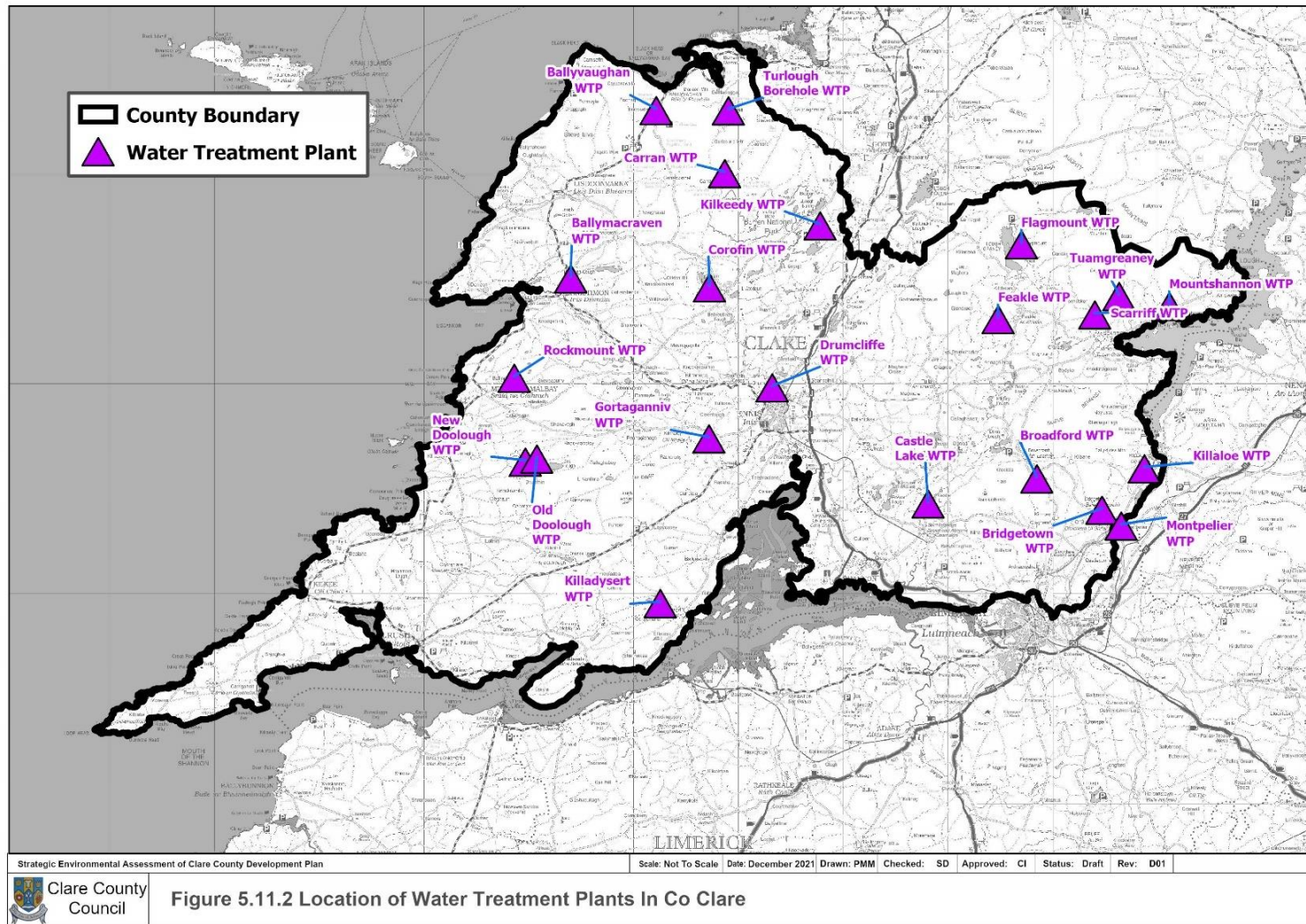
In general, there is sufficient water supply treatment capacity in the county to meet the needs of the target population identified in the core strategies (See **Figure 5.11.2** for the geographical locations of the 23 Water Treatment Plants in Clare). Many of the water treatment plants supply water to a number of settlements in a “Water Supply Zone”(WSZ) and WSZs may be linked together to form a water resource zone. County Clare is supplied by 16 water resource zones (WRZs). As part of the National Water Resource Plan it has been assessed that it is unlikely that there will be any issues facilitating new connections in the following WRZs: Killaloe, Corofin, Kilkeedy and Feakle water supplies, although further investigative studies or interventions may be required in some instances. The NWRP has determined that the following WRZs may require further investigative studies or interventions to facilitate significant new connections to the network:

- West Clare
- Ennistymon
- Ennis
- Turlough
- Ennis/Shannon/Sixmilebridge
- O’Brien’s Bridge PWS
- Kiladysert PWS
- Flagmount PWS
- Carron PWS
- Scarriff PWS
- Mountshannon PWS

It is Irish Waters objective to interlink WSZs, where appropriate, to increase the resilience (reliability) of the water supply system. Network reinforcement is likely to be required to ensure that water supply can be moved around the network to where it is needed. In addition, many of the water treatment plants in the county need upgrading in order to ensure that water is produced to the required standards as set out in the relevant Drinking Water Regulations. According to Irish Water the full options assessment stage of the NWRP is currently progressing in consultation with the water services department of Clare County Council. This will identify the preferred interim and long-term interventions required to ensure a sustainable water supply in Co. Clare, and nationally.

The emerging preferred approach for the Ennis/Shannon/Sixmilebridge WRZ under the NWRP full options assessment is to connect to Limerick City WRZ. However, in the short-term, potential improvements at Crean and Castle Lake WTPs may be required to facilitate growth: these are currently under investigation. Water treatment plant upgrades are due to commence in the Corofin, Ennistymon and West Clare WRZs in 2021.

Figure 5.11.2 Location of Water Treatment Plants in County Clare



## **Water Safety Plans**

A Water safety plan is a plan to ensure the safety of drinking water through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment management, the treatment plant and through to the consumers tap. The principles and concepts of risk management are used and then a multi-barrier approach to reduce the risk is put in place.

## **Water Supply and Climate Change**

The onset of climate change and predicted change in weather patterns, culminating in an increase in dry spells of weather and of rain surges, have potential implications on water supply. Already the water supply sources within the county come under strain during more prolonged spells of dry weather, which are set to increase in years to come. The summer of 2018 was officially classed as a drought by Met Éireann. The prolonged dry warm spell caused significant issues with water supply and in the agricultural sector. The demand on the major water supply schemes increased significantly while schemes serviced by groundwater supplies had to be augmented by tankers as ground water levels across the region plummeted. Additional deeper wells were drilled to try and supplement supply. Landscape and Development planning will need to take into account Climate Change predictions which will influence decision making around planning in the context of water. In Clare it is predicted that drought conditions will increase particularly in the summer months requiring more emphasis on the protection of landscape hydrology and important aquifers. Integration of Nature Based solutions including integrated catchment management incorporating land use sensitivity mapping and sustainable urban drainage systems will support good planning and mitigation measures where required.

Measures need to be put in place to adapt to predicted weather changes in terms of ensuring an adequate supply of clean water to the existing and future population of the plan area.

## **Wastewater Treatment**

The Urban Wastewater Treatment Directive (91/271/EEC, amended by Directive 98/15/EEC) aims to protect the environment from the adverse effects of wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. Such treatment is essential in order to meet the requirements of the WFD.

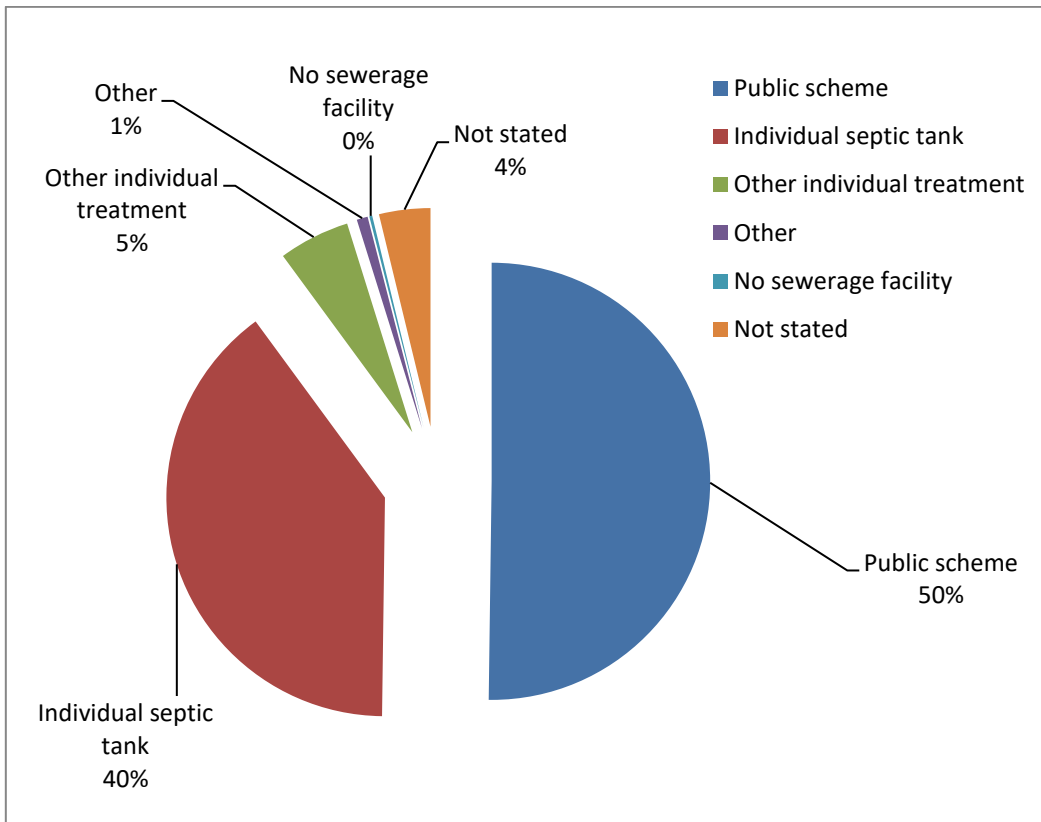
Wastewater within the county is treated either through wastewater treatment plants (48%) or individual septic tank units (44%). Many of the buildings which are located outside of the larger towns and villages are not connected to the public wastewater disposal system, and the effluent must be treated by individual proprietary wastewater treatment plants and septic tanks. There are 31 urban wastewater treatment plants in County Clare.

Wastewater services tend to be associated with individual settlements/agglomerations and there are significant service and compliance issues in many existing wastewater systems in Clare. The safe treatment and disposal of sewerage is fundamental to the sustainable development of our society.

The treatment of wastewater is either through wastewater treatment plants or individual septic tank units.

Irish Water has responsibility for provision and management of wastewater facilities serving sewered towns and villages, including the management of storm water. The maintenance, upgrading and provision of the County’s wastewater drainage system is essential to accommodate future development requirements and to ensure the sustainable development and environmental protection of the county. At present there are significant service and compliance issues in many existing wastewater systems in County Clare. **Figure 5.11.3** summarises the percentage by ‘Types of Wastewater Systems in County Clare’. **Figure 5.11.4** provides the geographical location of Wastewater Treatment Plants across the county. According to the EPA Urban Wastewater Treatment Report, 2019 Kilkee, Kilrush and Ballyvaughan were all found to be discharging untreated waste water to our seas. In addition, Shannon Town, Ennis South and Lahinch failed to meet the European Unions treatment standards in 2019.

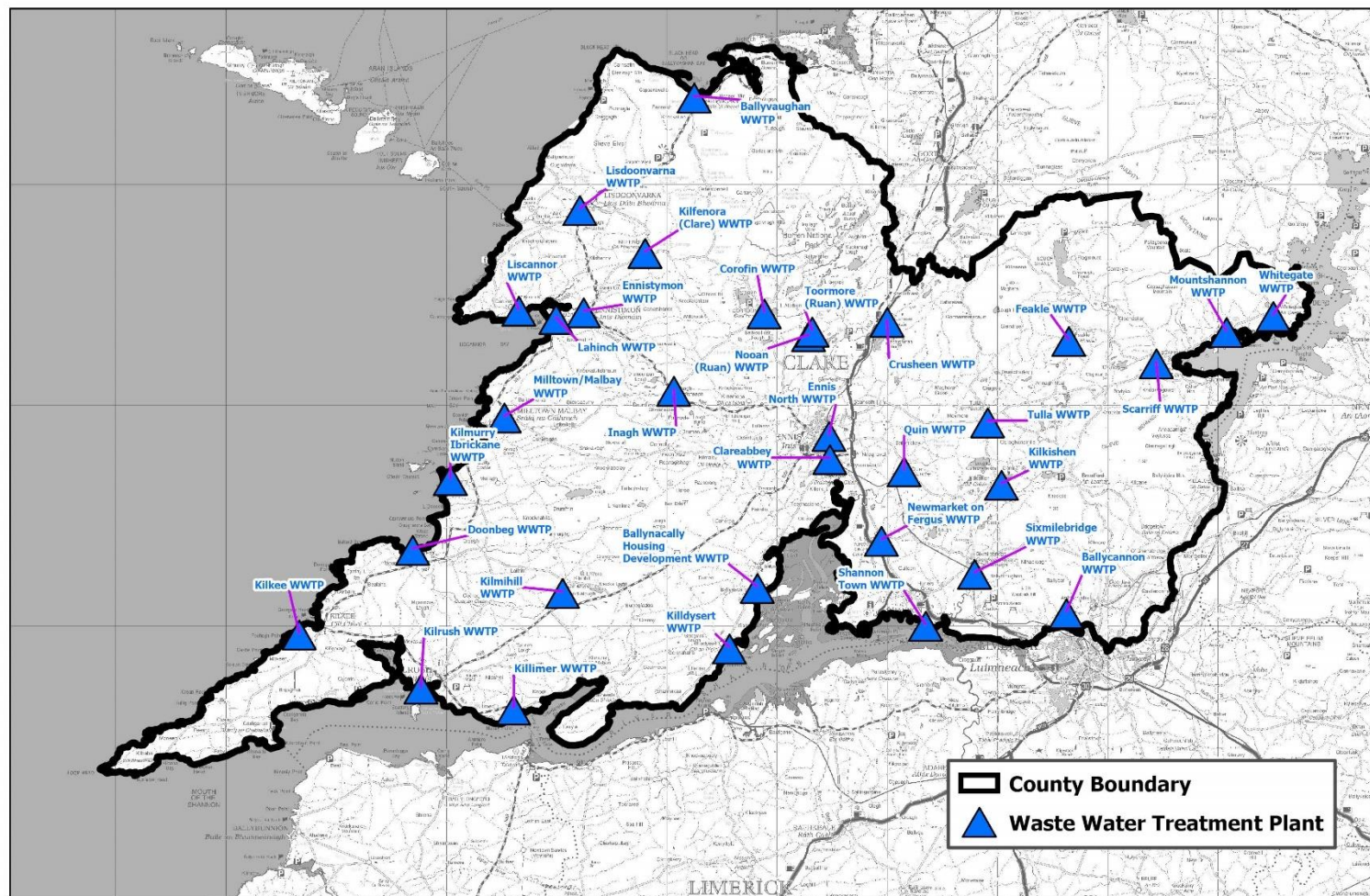
**Figure 5.11.3 Types of Wastewater Systems County Clare 2016**



Source CSO 2016



Figure 5.11.4 Location of Wastewater Treatment Systems in County Clare



Strategic Environmental Assessment of Clare County Development Plan Scale: Not To Scale Date: December 2021 Drawn: PMM Checked: SD Approved: CI Status: Draft Rev: D01


Clare County Council
**Figure 5.11.4 Location of Wastewater Treatment Systems in Co. Clare**



Outside of the larger towns and villages most developments in County Clare are treated by individual proprietary wastewater treatment plants and septic tanks. Developments in these unserved areas must demonstrate that the onsite on-site wastewater treatment system can safely and adequately dispose of effluent in accordance with the relevant EPA *Code of Practice*. Within County Clare the current settlement hierarchy identifies 85 settlements however, only 33 of these settlements have a public sewer. In line with the requirements of the National Planning Framework any settlements which are currently unsewered should be allocated new residential zoning or population allocation. Irish Waters, Investment Programme only runs to 2024 with the CDP running until 2028 providing a considerable time lag. The Investment Programme provides for limited investment in Clare in the short term. In the absence of a long-term investment plan, it is impossible to provide for growth in important service centres such as Ennistymon, Lahinch and Killaloe amongst others with no planned investment in un-served towns and villages. This could lead to the creation of undue pressure for septic tanks in rural towns and villages with potentially an increased demand for one off housing in County Clare.

#### **5.11.6 Renewable and Alternative Energy**

Error! Reference source not found., as taken from the draft RES shows the location and installed capacity (Mw/h) of renewable energy projects in Clare which include energy from wind, solar, hydro, wave, tidal. It does not show projects which were refused permission or projects which are deemed to be exempted development having regard to the Planning and Development Regulations 2007-2008.

Figure 5.11.5 Location and Operating Capacity (Mw/h) of Renewable Energy Projects in Clare

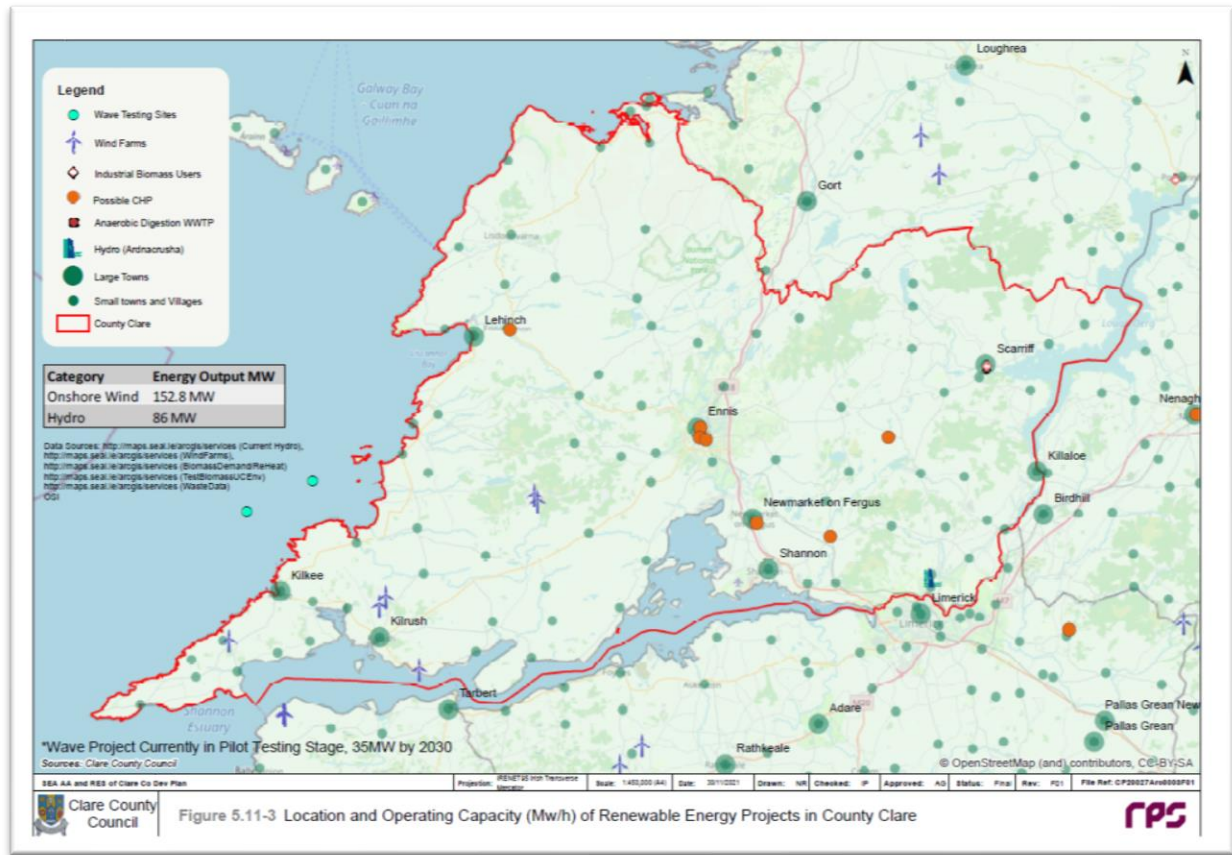


Table 5.11.1 Renewable Energy Generating Facilities in Clare in 2020

| Renewable Energy Type | Name        | Resource | Installed Capacity (MW) |
|-----------------------|-------------|----------|-------------------------|
| Wind                  | Total       | Wind     | 152.8                   |
| Hydro                 | Ardnacrusha | Water    | 86                      |
| Tidal                 | Total       | Water    | 0                       |
| Wave                  | Total       | Water    | 0                       |
| Solar                 | Total       | Sun      | 0                       |

In addition, there are renewable energy projects permitted but not constructed/not operational and proposed renewable energy development in Clare which include energy from wind, solar, wave, tidal, biomass and energy storage. The table below shows the permitted capacity for County Clare.

Table 5.11.2 Permitted Capacity in Clare

| Renewable Energy Type | Permitted Capacity (MW) |
|-----------------------|-------------------------|
| On shore wind         | 347.17                  |
| Solar                 | 110                     |
| Hydro                 | 86                      |
| Wave                  |                         |
| Tidal                 |                         |
| Biomass               |                         |

**Table 5.11.3 Permitted and Installed No. Facilities**

| Renewable Energy Type   | Installed No. Facilities | Permitted Facilities                                | Number |
|-------------------------|--------------------------|---|--------|
| On shore wind           | 9                        | 7 (note some are extensions of existing facilities) |        |
| Offshore wind           | 0                        | 0   |        |
| Solar                   | 0                        | 9   |        |
| Hydro                   | 1                        | 0   |        |
| Wave                    | 0                        | 0   |        |
| Tidal                   | 0                        | 0   |        |
| BioEnergy (large scale) | 0                        | 0   |        |

### 5.11.7 Climate Change and Critical Infrastructure

Flood events and possible consequent risk of subsidence may have a significant impact on critical infrastructure such as roads, rail, electricity, water and communications. This in turn would have a potential impact on productivity, economic confidence and general social wellbeing. Roads throughout the county suffered from the prolonged heat and “melting roads” in 2018 when it became a phenomenon whereby the bitumen softened and became liquid causing short term maintenance issues and longer-term resurfacing problems. Again, significant resources were diverted from normal operations to deal with these issues. Hotter summers could also place an additional stress on key infrastructure. Impacts identified with respect to the wastewater network fit within three broad impact themes; nuisance flooding spills and odour, water quality deterioration due to increased uncontrolled discharges and damage to infrastructure.

### 5.11.8 Issues and Threats

- Neighbourhood centres served by domestic sewers – the disposal of hot counter/takeaway cooking oils etc. can cause accumulation of fats and oils and impact on residential sewage lines. Where these uses need to be accommodated use mitigation re education re proper disposal of such ingredients.
- Problem of pumping station maintenance and potential risk of pollution as a result of operation malfunction. A pump health check should be undertaken during the lifetime of the Plan.
- Developments that are being considered should include an assessment of where the effluent is going and as to whether there is the pumping capacity to cope with the additional load that the development will generate.
- Promote water harvesting and conservation.
- There is a need to increase energy efficiency and conservation within County Clare and it is obliged to reduce carbon emissions by 50% by 2030.
- For offshore wind developments which have a high potential for development off the County Clare coast while the approval of the National Marine Planning Framework provides a shared vision and strategy on which decisions on marine developments and activities can be more

holistically and objectively assessed and reviewed. The passing of the legislation for the NMPF is a major milestone for planning in Ireland however in the absence of Marine Protected Areas together with detailed and site-specific Conservation Management Plans against which to assess and manage such developments there remains a significant gap in the area of marine spatial planning.

- There is insufficient wastewater treatment to cater for existing and projected population growth within some settlements across the county. Therefore, there is a need to provide additional wastewater treatment infrastructure/ capacity by Irish Water across this and future planning cycles and/or for the Local Authority to establish innovative solutions to water treatment at a local level.
- Additional pressures on the environment come from poorly functioning septic tanks which place pressures on surface and groundwater's.
- The travel patterns in Clare are governed to a large extent by private cars. Therefore, there are existing pressures on ensuring that the transport network is adequate and maintained. There is a need to look at the provision of public and/ or community transport service options to ensure that the existing and future population growth of County Clare has sufficient access to public transport.
- There is high technical potential for hydro power in Clare given the county's large coastline and water resources. Clare has a history of utilising hydro power (e.g., Ardnacrusha hydroelectric power station) –however realistic plans will be influenced by specific site conditions. Developments could also be influenced by fishery interests and seasonal water flow and balanced with the needs of tourism. Other constraints include establishing adequate grid connections and lack of interconnections with neighbouring countries (connected countries can buy and sell power during seasonal fluctuations without the need to store energy); the need to be near existing wind energy developments, high capital costs and policy gaps at the National and Regional level (currently no guidance for energy storage or site selection) are other considerations.
- While Pumped Hydroelectric Energy Storage (PHES) is the most mature and largest energy storage technique available, these developments are also constrained by high capital costs, long lead-in times and policy gaps at the National and Regional levels.
- All renewable energy developments have the potential to effect or impart environmental pressures on biodiversity, habitats/designated areas and water quality, in addition to the visual impact to scenic landscapes and settlements.

#### **5.11.9 What will happen to material assets without the implementation of the Plan?**

The current legislation which provides for the protection and enhancement of the water resources and quality at European, National, Regional and County level will protect and maintain existing water bodies in the Plan area. However, in the absence of the Clare County Development Plan 2023-2029 there would not be a planning framework to regulate, aid and control development in accordance with specific local issues in relation to potable water, wastewater treatment, flooding and development. This could result in significant impacts across a range of environmental parameters including biodiversity, water, human health, landscape and soil and geology.

**5.11.10 Data gaps/difficulties**

- Traffic surveys to inform the preparation of a traffic management plan.
- Accurate measurements of water leakages to allow for monitoring effectiveness of rehabilitation measures to reduce water loss.
- Establishing innovation solutions to the treatment of wastewater which can be maintained by Irish Water in the long term.
- Ensuring our critical infrastructure is resilient to the impacts of Climate Change and that we build adaptation into any new infrastructure.

**5.11.11 Inter- relationships**

|       | CC | PHH | SG | W | BFF | CH | L | AN |
|-------|----|-----|----|---|-----|----|---|----|
| *MAT  | √  | √   | √  | √ | √   | √  | √ | √  |
| *MAW  | √  | √   | √  | √ | √   | x  | √ | √  |
| *MAWS | √  | √   | √  | √ | √   | x  | √ | √  |
| *MAWW | √  | √   | √  | √ | √   | x  | √ | √  |
| *MARE | √  | √   | √  | √ | √   | x  | √ | √  |

(CC = Climate Change; BFF = Biodiversity, Flora and Fauna; PHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Noise; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Wastewater; (MA)RE = Renewable Energy; CH =Cultural Heritage)

**5.11.12 SEA Recommendations \***

\*Refer to Chapter 11 for full details on recommendations

| SEA Recommendations – Material Assets   | Inclusion in the Plan  |
|---|--|
| <p><b>Transportation</b></p> <p>Promote sustainable travel by providing for the development of greenways/walkways/cycleways, in conjunction with green and blue infrastructure, within the Plan area.</p> <p>To promote Nature Based Solutions within all new road schemes or upgrades to adapt to Climate Change.</p> <p>To reimagine our infrastructure needs and requirements in a way that it works as part of our public realm provides an amenity and benefit to human health all the while providing water retention measures in times of flood.</p> | <p>The SEA recommendations relating to transportation are achieved through the inclusion of the following CDP Objectives.</p> <p>We respect to sustainable travel CDP Objective 9.3, 11.2 &amp; 11.9, Green Infrasutstructure CDP Objective 15.12, 15.13, 15.14, 15.16 &amp; 15.30, Nature Based Solutions CDP Objective 2.2 &amp; 2.6, CDP Objective 11.6 with respect to the rail network in addition text has been included</p> |

|  |  |
|--|--|
| <p>To support the investigation of a sustainable solution to the flooding issue at Ballycar on the Limerick – Ennis Railway line in conjunction with the NTA and Iarnrod Eireann.</p> <p>To promote Shannon Airport as an International starting and finishing point for Cruise holidays in conjunction with Cruise Shannon Estuary.</p> | <p>to support the objectives as outlined in the Clare Tourism strategy pertaining to the cruise sector and the potential links with Shannon Airport.</p> |
|--|--|





## 5.12 Cultural Heritage

This section of the Environmental Report discusses cultural heritage which includes archaeological and architectural heritage.

### 5.12.1 Archaeological Heritage

Archaeological heritage is defined as including structures, places, caves, sites, features or other objects, whether on land underwater or in inter-tidal zones. All archaeological structures, constructions, groups of buildings, developed sites, all recorded monuments as well as their contexts, and moveable objects, situated both on land and underwater are part of the Archaeological Heritage. Therefore, the archaeological heritage of the area is not confined to the archaeological sites within the Record of Monuments and Places. It also includes any archaeological sites that may not have been recorded yet, as well as archaeology beneath the ground surface, or underwater as well as the context of any such site discovered.

There are currently c. 8387 monuments in Clare, which is more than most counties in Ireland. Notably, there is little evidence from the earliest period, the Mesolithic, but the Neolithic or New Stone Age and subsequent eras are well represented with many sites and artefacts demonstrating life in Clare for the past 6,000 years. These early farmers left little evidence of their settlements, but their territorial/burial monuments survive. Large numbers of megalithic structures are found in the Burren including the Poulawack Cairn, a burial mound constructed more than 5500 years ago, which is of National importance. Nearby are Parknabinnia Chambered Tomb and a pre-historic quarry possibly used to extract stone to build these structures. North of this cluster stands what is possibly the most iconic monument in County Clare, the Poulnabrone Portal Tomb. Various megalithic tombs also survive in other areas of County.

The Bronze Age, 2500-500BC is represented by less dramatic visible structures, but no less important. They include wedge tombs, standing stones, stone circles and various types of burial mounds or barrows. By far the most common monuments in County Clare are ringfort enclosures existing in large numbers in rural areas (c. 3,000 examples). There are a number of different types: earthbank (rath or fairyfort), stone wall (caiseal) and combined earth and stone. Originally, it is thought they were farmsteads protecting people and livestock and some were reused more recently as cillíns or burial sites for strangers and unbaptised children. Common also from this early mediaeval period are Crannógs or small artificial islands in lakes. There are over 170 medieval stone churches in County Clare, as well as a number of larger ecclesiastical sites, such as Clare Augustinian Abbey, Corcomroe Cistercian Abbey and Ennis and Quin Franciscan Friaries. During the Medieval period, Norman castles were built at Bunratty (later demolished), Quin and Clarecastle, while over 230 Gaelic tower houses were built in the County during the 15th century.

The list of recorded monuments in Clare also includes field systems, log boats, souterrains, watermills, fulachta fiadh (ancient cooking places), holy wells, medieval roads, bridges, promontory forts, round towers and earthworks. This is a rich and varied record of past human activity, in the County.

Rivers have acted as focal points for both settlement and ritual activity through all periods of human settlement; this is borne out in County Clare by the number of recorded archaeological sites close to the River Fergus, for example Knockanoura Castle (CL033-087) and Skehanagh Castle (CL041-089). Under the National Monuments (Amendment) Act (2004) the archaeological heritage within County Clare is protected. The Record of Monuments and Places (RMP) for County Clare is an inventory of archaeological sites of significance and according to the CDP there are approximately 8,387 archaeological sites within County Clare.

Recent archaeological surveys of intertidal areas in the Shannon Estuary have uncovered a wealth of archaeological material including evidence of prehistoric settlement dating back to 7000BC. There are eight submerged forest locations, three of which represent relict woodland that has been inundated by rising water levels and which can date back far into prehistory. The inventory indicates references to 127 shipwrecking events between the sixteenth and the early twentieth century. However, only 16 wreck sites can be located precisely (SIFP SEA Environmental Report). The INFOMAR programme also maintains a Shipwreck Inventory (2002-2013), and from this inventory only one shipwreck location has been mapped in the surrounding waters for County Clare, that of the *SS Premier*.

### 5.12.2 Architectural Heritage

Part IV of the Planning and Development Act 2000 (as amended) defines the term “architectural heritage” as: structures and buildings together with their settings and attendant grounds, fixtures and fittings, groups of structures and buildings, and sites, which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest” and “where a structure is protected, the protection includes the structure, its interior and the land within its curtilage (including their interiors) and all fixtures and features which form part of the interior or exterior of all these structures”.

There are 911 protected structures in the Plan area ranging from churches, bridges, grain stores, houses, shops and public buildings (Refer to **Figure 5.12.1 “Protected Structures”**). Many structures of industrial and railway heritage are also included in the Record. The town centre which has survived almost intact since the late 16<sup>th</sup> century and other groups of buildings in the plan area are designated Architectural Conservation Areas, affording protection to the exterior of all structures within the ACAs in order to protect the unique architectural character of an organically evolved, mediaeval, Gaelic market town.

An ACA refers to a place, area, group of structures or townscape, that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or that contributes to the appreciation of a protected structure, and whose character it is an objective of a Local Area Plan to preserve. Its inclusion within the Plan, in terms of Section 81, Part IV of the Planning and Development Act, 2000 (as amended) affords greater control over the form of development that may be permitted and reduces instances of inappropriate development, demolition and unnecessary change within the designated area.

There is also, in the Plan area, a rich heritage of stone buildings and examples of a rich vernacular building tradition which evolved, over many millennia, to suit life in this part of County Clare. While many of these are not included in the Recorded of Protected Structures, they nevertheless contribute

to the character of an area by their history, use of local, sustainable materials, classical proportions and inoffensive scale. It is important that such buildings are preserved into the future to maintain the attractive character of our rural landscape and contribute to the amenity and pleasure of residents and visitors alike.

### **5.12.3 Climate Change and Cultural Heritage**

Climate change is a significant threat to cultural heritage across our county given the impact storm surges, increased rainfall events and coastal erosion have on our exposed coastline.

The Clare Climate Change Adaptation Strategy identifies the potential for damage to cultural and heritage assets and cultural landscapes from increased storm and rainfall events due to climate change. The consequences of this can lead to a negative impact on tourism leading to economic consequences locally and regionally. The loss of assets of intrinsic historical importance is of particular concern. We need to foster meaningful approaches to protecting natural and key cultural assets through an appreciation for the adaptive capacity of the natural environment to absorb the impacts of climate change. Action No. 1 under Objective 2 *To protect heritage and cultural infrastructure* of the Clare Climate Change Adaptation Strategy seeks to undertake a risk assessment of the Heritage and Cultural Assets in the county to assess the vulnerability and the risk to the historical environment from the impacts of climate change and to help build resilience to these important assets.

### **5.12.4 Existing Environmental Problems**

Although cultural heritage is afforded the highest level of legislative protection, eg. Record of Protected Structures and Architectural Conservation Areas, impacts may occur due to pressure from inappropriate developments. Significant development pressures may vary depending on the location within the Plan area.

### **5.12.5 What will happen to Cultural Heritage without the implementation of the Plan?**

County Clare has a significant assembly of cultural heritage with extensive and effective legislation and guidance from International to national level affording both the architectural and archaeological heritage a high level of protection. However, in the absence of the Clare County Development Plan 2023-2029 there may not be a framework within which to regulate, aid and/or control development whether economic, social, or environmental. This may lead to uncontrolled development resulting in losses and/or deterioration in the cultural heritage of the Plan area. The Record of Protected Structures would remain in place.

Under the above circumstances, the cultural heritage within the administrative/ settlement boundary, in the absence of the Plan would suffer due to insufficient monitoring and guidance. Thus, the evolution of cultural heritage in the absence of the Plan would be highly dependent on the rate and extent of uncontrolled developments. Ultimately, the potential for fragmentation, loss, and/or deterioration of cultural heritage would occur of this irreplaceable resource.

### **5.12.6 Data Information Gaps**

It would be advantageous to undertake a detailed survey of the existing, historic and stone bridges in the Plan area to assess the historic, vernacular, design and amenity value for their protection. While a North Clare Bridge study was completed in 2015 the roll out of this county wide would be beneficial.

### 5.12.7 Inter-relationships/compatibility

|    | CC | PHH | SG | W | AN | L | BFF | MAT | MAW | MAWS | MAWW | MARE |
|----|----|-----|----|---|----|---|-----|-----|-----|------|------|------|
| CH | √  | √   | √  | x | √  | √ | √   | √   | x   | x    | x    | x    |

(CC= Climate Change; BFF = Biodiversity, Flora and Fauna; PHH = Population and Human Health; SG = Soil and Geology; W = Water; Air and Noise; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Waste Water; (MA)RE = Renewable Energy; CH =Cultural Heritage)

### 5.12.8 SEA Recommendations \*

\*Refer to Chapter 11 for full details on recommendations

| SEA Recommendations – Cultural Heritage   | Inclusion in the Plan  |
|---|--|
| Include an objective in the plan which incorporates the importance of the specified ACAs within the Plan period.  | This is achieved through the inclusion of CDP Objective 16.5.  |
| <p>With respect to the Clare Heritage Plan 2017 and in conjunction with the actions required by the Clare Climate Change Adaptation Strategy a risk assessment of the Heritage and Cultural Assets in the county to assess the vulnerability and the risk to the historical environment from the impacts of climate change and to help build resilience to these important assets should be undertaken. This may be a desk-based GIS exercise utilizing the most up to date flood risk and future impact scenario mapping versus the available database of Heritage and Cultural Assets.</p> <p>Specifically with respect to the Clare Heritage Plan 2017 the following actions should be prioritized and promoted as part of the Clare County Development Plan 2023-2029.</p> <p><b>Biodiversity, Climate Change and Green Infrastructure Planning Actions</b></p> <p>Research sites of high cultural and nature conservation value along the Clare Coast to fully understand the implications of climate change and sea level rise and the potential approaches to mitigation, adaption and building resilience in these areas</p> <p><b>Built Heritage Recommendations in line with the Clare Heritage Plan.</b></p> <p>Further explore the heritage potential of County Clare’s maritime built heritage and opportunities for</p> | <p>This is covered through the inclusion of CDP Objective 16.7.</p> <p>Prioritisation of the Clare Heritage Plan objectives is achieved through the inclusion of CDP Objective 15.1.</p> |

|  |  |
|--|--|
| its conservation and restoration, particularly in light of sea level rise, coastal erosion and flooding. |  |
|--|--|



Figure 5.12.1 Protected Structures throughout the County

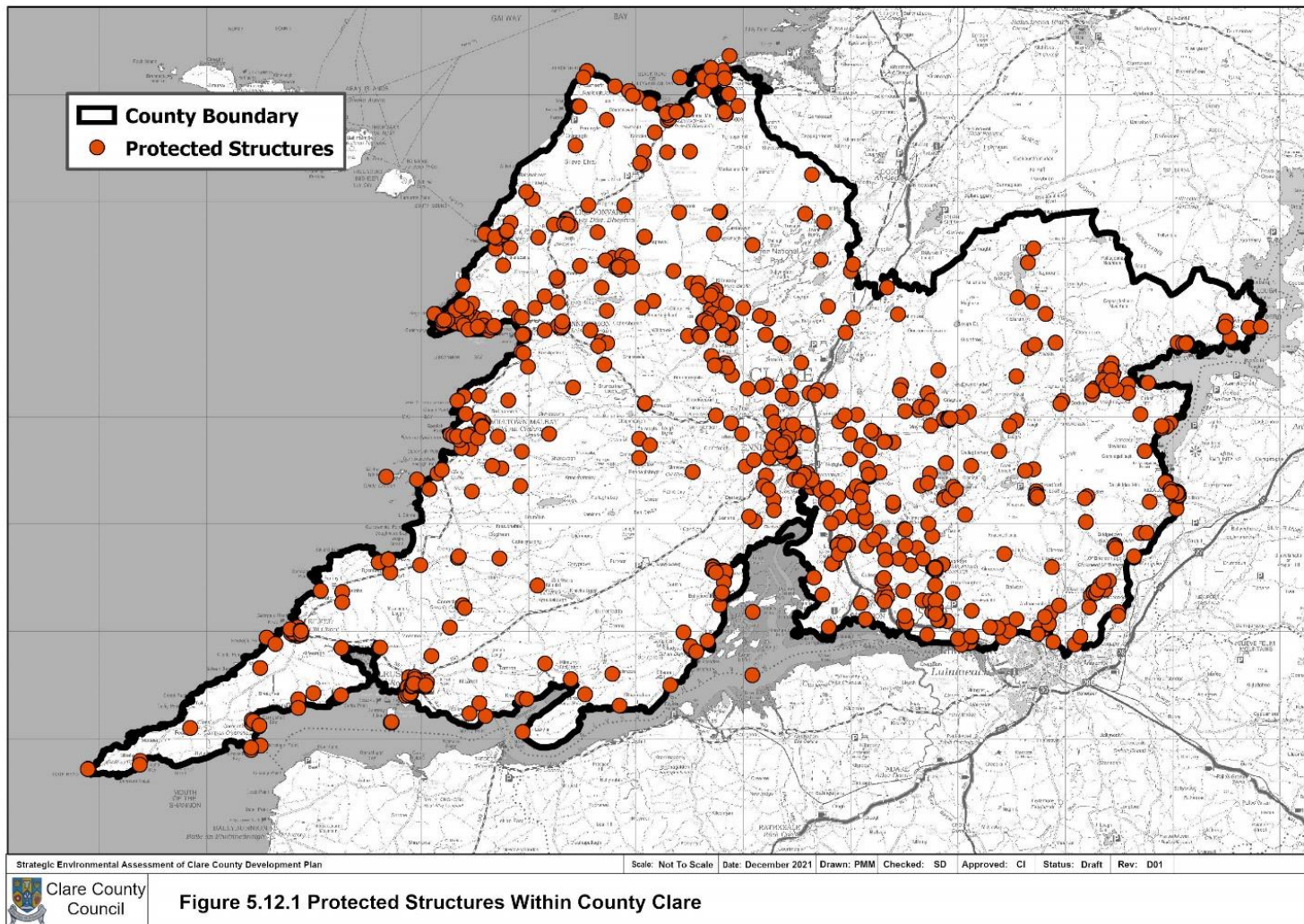
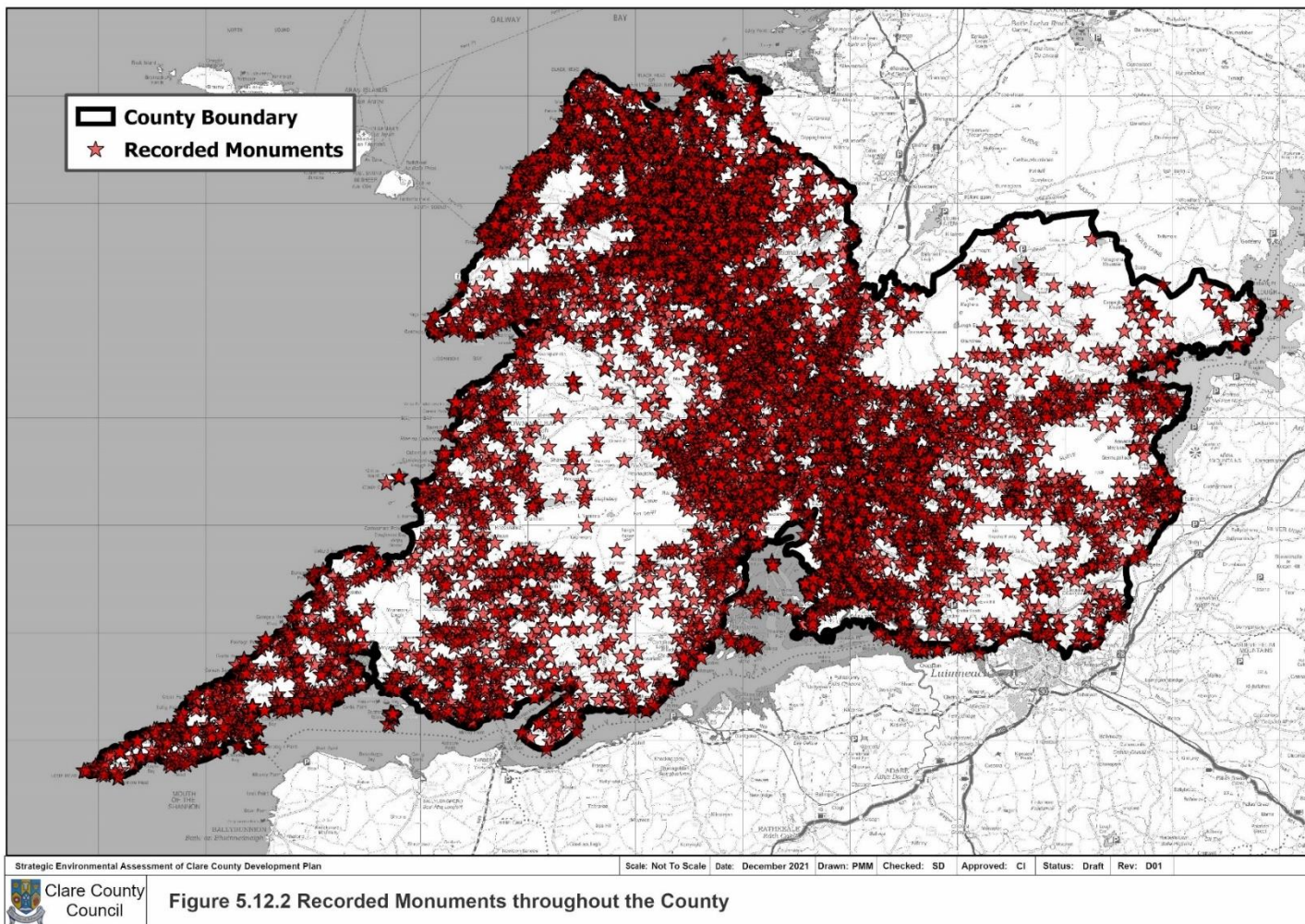


Figure 5.12.2 Recorded Monuments throughout the County





## 5.13 Landscape

### 5.13.1 Introduction

Landscape is defined as an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Landscape Convention, 2002). This definition is incorporated through Part 2, Section 4(c) of the Planning and Development (Amendment) Act 2010. Within the Heritage Act 1995 landscape is defined as including “areas, sites, vistas and areas of significant scenic, archaeological, geological, historical, ecological or other scientific interest”.

Landscape consists of a series of layers including landform (geology and geomorphology), land cover (vegetation, water, human settlements) and human values (historical, cultural, religious) and other understandings and interactions with landform and land cover. The landscape plays an important role in people’s lives, providing individuals and communities with a sense of identity and belonging, as well as bestowing a sense of place. Landscape is the context within which change takes place.

### 5.13.2 Landscape Designations and Protection

There are two key studies that have been undertaken to characterise the diverse landscapes for the County and combined they provide a detailed set of landscape designations for the County which have been incorporated within the policies and objectives of the County Development Plan. The reports are:

The **CAAS Report (1997)** “Criteria for the Evaluation of Landscape Quality” which identified the visually sensitive features of the landscapes of the County and informed the 1999 Clare County Development Plan; and

**The Heritage Council Landscape Character Study/ERM (2003)** which provided a very detailed characterisation of the different parts of the County in line with the thinking of the DoEHLG (2000) Landscape and Landscape Assessment – Draft Planning Guidelines for Planning Authorities.

The National Landscape Strategy (NLS) for Ireland 2015-2025 seeks to provide a framework for the protection of the many cultural, social, economic and environmental values embedded in the landscape. The objective of the Strategy is to provide the data that will assist in the future decision making process regarding our landscapes, and which will ensure that decisions are made on the basis of factual evidence collected. The NLS will assist in the achievement of greater consistency in decision making across the country when dealing with issues of landscape, in particular via landscape character assessment. It will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high level policy framework to achieve balance between the protection, management and planning the landscape by way of supporting actions.

As part of the Clare County Development Plan 2011-2017 (as varied), Clare County Council in conjunction with CAAS Environmental Services revisited the policy approach, called “Clare’s Living Landscapes”. This approach builds on the “Landscape Character Assessment of County Clare”.

### 5.13.3 Landscape Characteristics of the Plan Area

The components of Landscape Character Assessment are Landscape Character Types, Landscape Character Areas and Seascape Character Areas.

#### a. Landscape Character Types

These are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different localities throughout the County. Nonetheless, where they do occur, they commonly share similar combinations of geology, topography, land cover and historical land-use, for example, limestone river valleys and blanket bog uplands. There are 26 landscape types identified within the County, sub-divided into three groups, namely Upland Types, Lowland Types and Coastal Types. In addition the Landscape Character Assessment identified:

Habitat Types – an area in which an organism or group of organisms lives and is defined by the living and non-living components of the environment. The latter includes physical, chemical and geographical factors, in addition to human impact or management;

Historical Landscape Types – an archaeological or historic landscape is a discrete landscape based on the “scale and integrity of the archaeological features (that) reflect significantly on the human history and land use of that area”.

#### b. Landscape Character Areas

Landscape Character Areas (LCA) are units of the landscape that are geographically specific and have their own character and sense of place. Each Landscape Character Area’s distinctive character is based upon patterns of geology, landform, land-use, cultural, historical and ecological features. The Landscape Character Assessment for County Clare identified 21 Landscape Character Areas and are shown on **Figure 5.13.1** “Landscape Character Areas”. There is a potential for permanent infrastructure or developments within the county to impact landscape and visual amenity temporarily during construction or permanently throughout operation.

#### c. Regional Seascape Character Areas

In 2020 the Marine Institute published a report outlining the Regional Seascape Character Areas for Ireland<sup>51</sup>. The report presents the seascape character assessment which will form a core component of the evidence base for Marine Spatial Planning and marine policy formulation. The aim of the study was to identify, classify and describe seascape character at a regional scale. It is important to recognise that seascape character is a dynamic and changing space which is particular relevant for the Clare coastline which is highly subjected to coastal erosion and the influences of the Atlantic. In addition, as seascape is perceived by people, it therefore follows that there are many interpretations and understandings as to what contributes to and creates seascape character. The study undertaken by the Marine Institute fills an identified gap in baseline descriptions of seascape character; it also contributes to achieving commitments under the European Landscape Convention 1.2 (ELC) and

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<sup>51</sup>

[https://emff.marine.ie/sites/default/files/bluegrowth/PDFs/seascape\\_character\\_assessment\\_consultation\\_report\\_part\\_1\\_0.pdf](https://emff.marine.ie/sites/default/files/bluegrowth/PDFs/seascape_character_assessment_consultation_report_part_1_0.pdf)

Ireland’s National Landscape Strategy (NLS) 2015 – 2025. Seascape Character Assessment (SCA) has emerged as a method for assessing, characterising, mapping and describing seascape character. The process of SCA follows the well-established, and widely used, process of Landscape Character Assessment as outlined in (b) above. Seascape is defined as “an area of sea, coastline and land, as perceived by people, whose character results from the actions and interactions of land with sea, by natural and/or human factors”.

The Regional SCA identifies three Regional Seascape Character Areas for Clare as follows and as shown in conjunction with the Seascape Character Areas in **Figure 5.13.2**;

- SCA6 – Atlantic Galway Bay & islands
- SAC7 – Atlantic Clare Cliffs
- SCA8 – Shannon Estuary and Tralee Bay

#### **d. Seascape Character Areas**

A seascape can be defined as comprising one or more views from land to sea, views from sea to land, views along coastline, and/or the effect on landscape of the conjunction of sea and land. The LCA for County Clare area identified 12 Seascape Character Areas as shown in **Figure 5.13.2**. They include; Blackhead Bay, Burren, Cliffs of Moher, Liscannor Bay, Malbay, Mutton Island & White Strand, Ballard Bay & Donegal Point, North Loop Head Peninsula, South Loop Head & Shannon Mouth, Lower Shannon, River Shannon and the Fergus Estuary.

Within the Landscape Character Assessment a Seascape is defined as comprising of one or more of the following:

- views from land to sea;
- views from sea to land;
- views along coastline;
- the effect on landscape of the conjunction of sea and land.

#### **5.13.4 Landscape Sensitivity**

Within County Clare there are a number of valuable scenic routes which offer a very attractive cross-sectional view and overall impression of differing landscapes. Scenic routes will be considered insofar as they can be visible from surrounding counties also. The scenic routes are located within and close to heritage landscape and include loughs, landscapes, ridges and islands. There are also walkways within the county which are of great significance and a number of trees within County Clare which are to be preserved, many of which are located on scenic routes as shown on **Figure 5.13.3**.

#### **5.13.5 Living Landscapes**

The Clare County Development Plan 2023-2029 identifies three types of living landscapes within which all parts of the county fall within one or more. It is in recognition of different parts of the County having different potential for how communities can pursue their ambitions and aspirations. Different areas have different strengths and weaknesses and as such what may be suitable for one area may not be suitable for another. The three types of living landscapes include Settled Landscapes, Working

Landscapes and Heritage Landscapes. Please see **Figure 5.13.3** “Landscape Designations” which shows the landscapes within the Plan area as described below.

**a. Settled Landscape**

A settled landscape is where the majority of the population work and live and comprise of all landscapes not classified as Heritage or Working landscapes.

**b. Working Landscape**

Working landscapes are those areas within Settled Landscapes that contain pockets of concentrated development or a unique natural resource. The central part of the county including lies within the Western Corridor (Ennis to Limerick) Working Landscape. This corridor has the highest concentration of population and jobs and the strongest transport links and connectivity, which includes the County/Hub town of Ennis.

**c. Heritage Landscape**

Heritage Landscapes are those areas where sensitive environmental resources – scenic, ecological and historic, are located. The principal role of these landscapes is to sustain natural and cultural heritage. North Clare and the Burren together with parts of East Clare and the fringes of West Clare lies within a Heritage Landscape a shown on **Figure 5.13.3**.

**5.13.6 Local Landscapes Features**

Landscapes within urban areas provide a valuable contribution to an individual’s sense of well-being and quality of life. These could consist of a glimpse of countryside between buildings, a tree-lined river bank or street or a secluded pocket of woodland. All are worthy of preserving. An erosion of these small, but important landscapes, will cumulatively over time have a negative effect on the environment within which we live and impact on our well-being and also potentially on our broader environment including on biodiversity and climate change.

The plan area is rich in natural landscape features which reflect the character and local distinctiveness of both the urban and rural landscapes, including rivers, streams, ponds, lakes, turloughs, woodlands, hedgerows and field boundaries.

**5.13.7 Issues and Threats in the Plan Area**

The intrusion onto greenfield sites for development can have a significant effect on the landscape and local landscape features in rural and urban areas.

The character and landscape of seascapes can be compromised as a result of development. The visual impact of a development on the landscape should be considered from various visual aspects and in combination with any surrounding development. A failure to consider proposals in the context of potential cumulative effects on the landscape presents a serious threat to future landscapes. Areas along the Fergus and Shannon estuaries, along the west coast of County Clare and within the heritage landscape of the Burren and North Clare which experience development of one-off houses and other urban type development are having adverse visual impacts on the landscape due to its low capacity



to absorb development. The cumulative effect of individual one-off houses has the potential to have a significant effect on the landscape.

### 5.13.8 What would happen to the landscape without implementation of the Plan?

In the absence of the Clare County Development Plan 2023-2029 there would be no framework within which to regulate, aid and/or manage future economic, social or environmental development. A lack of development objectives would lead to uncontrolled development with no framework for directing development to appropriate locations. Certain areas could experience development pressure, for example, along the Fergus estuary which has limited capacity for development before contributing to the degradation of the landscape. In addition, given the significant focus on the development of renewable energy off the Clare Coastline seascapes would not given due consideration in the assessment of such strategic developments. The Plan will include objectives that provide for the preservation, protection and enhancement of the landscape and seascape as part of an integrated sustainable planned approach to future development within the Plan area. Therefore the absence of the Plan would remove such protection and enhancement measures for the landscape, potentially leading to its fragmentation, loss and deterioration.

### 5.13.9 Landscape and Climate Change

Through the requirement for flood protection measures and building climate resilience into our spatial plans there is a potential for negative or adverse impacts on the Lanscape. The protection of sensitive landscapes in particular together with our seascape should be paramount when considered hard engineering response to climate mitigation. Nature Based Solutions should be prioritised for consideration as part of all Flood Relief Schemes as a first priority in terms of protecting the landscape. The development and utilisation of zoned land in preference for unzoned land outside settlements should be promoted throughout the plan to help protect the overall landscape and deliver compact growth. The move to a low carbon society and to the generation of electricity, heat and transport through renewable sources in order to mitigate the effects of climate will also need careful consideration in terms of visual impacts and location within scenic or sensitive areas.

### 5.13.10 Current Issues and Problems/Data gaps/difficulties?

There is no up to date data on local landscape features within the plan area. A comprehensive survey would provide baseline information which would effectively inform where the focus of protection of these features should be directed.

Protection of views is challenging due to its subjective nature, but effort should be applied into undertaking a survey within the Plan area. In the absence of a record of views to be protected, consideration should be given to defining criteria or guidance which would assist in assessing any visual impacts in this regard when considering location of future development.

### 5.13.11 Inter-relationship/actions with other environmental parameters

The landscapes within which we live, and the threats to it, inter-relates with all facets of the environment, including human health and sense of well-being, biodiversity and water quality.

|   | CC | PHH | SG | W | AN | BFF | CH | MAT | MAW | MAWS | MAWW | MARE |
|---|----|-----|----|---|----|-----|----|-----|-----|------|------|------|
| L | √  | √   | √  | √ | √  | √   | √  | √   | √   | √    | √    | √    |

(CC=Climate change; BFF = Biodiversity, Flora and Fauna; PHH = Population and Human Health; SG = Soil and Geology; W = Water; AN= Air and Noise; L = Landscape; MA=Material Assets – (MA)T = Transport; (MA)W = Waste; (MA)WS = Water Supply; (MA)WW = Waste Water; (MA)RE = Renewable Energy; CH =Cultural Heritage)

### 5.13.12 SEA Recommendations \*

\*Refer to Chapter 11 for full details on recommendations

| SEA Recommendations – Landscape/Seascape  | Inclusion in the Plan  |
|---|--|
| To ensure local landscape features are recorded and protected, as they are the ones most likely to be lost incrementally in the plan area.  | This has been achieved through the inclusion of CDP Objectives 15.12, 15.19 & 16.5.                      |
| To record and protect important views within both the urban and rural areas of the Plan area.   | This has been achieved through the inclusion of CDP Objectives 14.7 (Scenic routes) and 14.6 (Seascapes) |
| To include an objective to prepare guidance or criteria on visual impacts as part of the County Development Plan.   | An objective relating to this has not been included in the Plan.   |
| To survey and protect trees and areas of woodland within the Plan area as important landscape features and to identify potential new areas for creating woodland areas.                               | This has been achieved through the inclusion of CDP Objective 15.19.                                     |
| To include the assessment and protection of Regional Seascape Character Areas as identified by the Marine Institute and shown in <b>Figure 5.3.12</b> of the SEA ER within the objectives of the CDP. | This has been achieved through the inclusion of CDP Objective 14.6                                       |
| Nature Based Solutions should be prioritised for consideration as part of all Flood Relief Schemes as a first priority in terms of protecting the landscape.  | This has been achieved through the inclusion of CDP Objective 2.2 & 2.6.                                 |
| Landscape (visual impacts, seascapes, sensitive views/vistas, scenic views) must all be given due consideration in the assessment of any Renewable Energy projects being proposed across the county.  | This has been achieved through the inclusion of CDP Objectives 15.12, 15.19 & 16.5.                      |

### 5.13.12 Environmental Sensitivities of the Plan Area

#### *Environmental Sensitivity Mapping (ESM) Webtool*

The ESM Webtool is a new decision support tool to assist SEA and planning processes in Ireland. The tool brings together over 100 datasets and allows users to explore environmental considerations within a particular area and create plan-specific environmental sensitivity maps. These maps can help planners anticipate potential land-use conflicts and help identify suitable development locations, while also protecting the environment. The ESM Webtool is available at [www.enviromap.ie](http://www.enviromap.ie)

The ESM Tool has allowed an evaluation of the environmental sensitivities that exist within the Plan area. 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 which 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 alternatives during the early stages in the plan making process, as to how and where the Development Plan should direct future growth.

The key datasets used to inform this sensitivity mapping were as follows;

- Ecological Designations (SAC, SPAs, NHAs)
- Freshwater pearl mussel
- Aquifer Vulnerability
- Source Protection Areas/Register of Protected Areas
- Flood Extents
- WFD River and Groundwater and TraC status
- Wetland Habitats
- Peat Bogs

The environmental sensitivities map (**Figure 5.13.3**) shows the level of overlap of environmental sensitivities and the range of physical environmental factors that require consideration in identifying locations for potential future growth. It is important to note that the environmental factors not reflected on this map, e.g., those that are point specific, like protected structures, were not included as it was considered by their inclusion; it would potentially give a visual misrepresentation of sensitivity when considering potential areas for future growth. Also, important to note is that the physical extent of the environmental sensitivity can extend beyond the defined area on the map, as the potential impact can be generated at a location remote from the mapped area. For example, a development outside of a designated site boundary does not mean that it cannot impact on it. This is particularly relevant in relation to freshwater pearl mussel where developed outside of either a designated SAC catchment for freshwater pearl mussel or a pearl mussel sensitive area takes place on high risk soils such as peat the impacts can be realised for a significant distance downstream of the development and hence within the catchment of the pearl mussel.

In modelling, each variable was weighted in terms of their sensitivity. The map effectively reflects where the key concentrations of sensitivity are situated within the plan area. These include:

- The Northern area of the Plan (North Clare) – in and around the Burren which contains a number of NHAs, wetlands, rock at or near the surface and a heritage landscape.
- The Southern area of the Plan (along and including the Shannon Estuary)– This includes the Cloon River (FPM SAC), the Gaurus River and flood plain, River Fergus and flood plain (to the east), Ballybeg Lough, Newhall and Edenvale Estate (south-west) and the Shannon Estuary containing heritage landscapes and surface waters that are nutrient sensitive.
- The central area of the plan (including Ennis and on to Northeast Clare) – this includes key SPAs and NHAs which are protected for the Hen Harrier, moderate to poor river status, a high number of protected bat roosts, high to extreme groundwater vulnerability and areas of heritage landscape to the east.

Having set out the environmental baseline for the Plan area it highlighted the potential challenge for the plan makers in identifying the required number of appropriate lands to meet future growth needs. This assisted and informed the development of alternatives as set out in the following **chapter 7**.



Figure 5.13.1 Landscape Character Areas

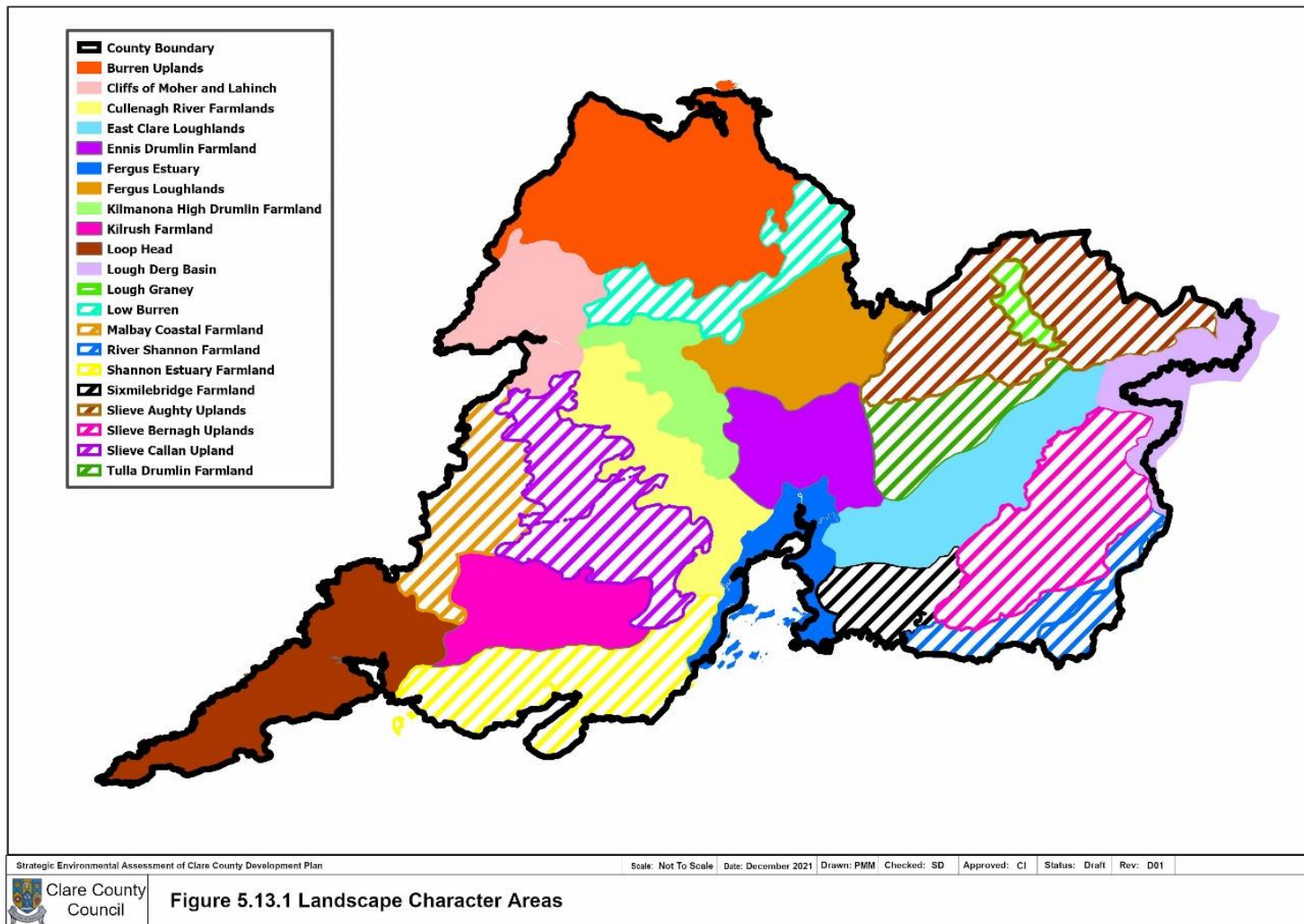




Figure 5.13.2 Landscape and Seascape Designations

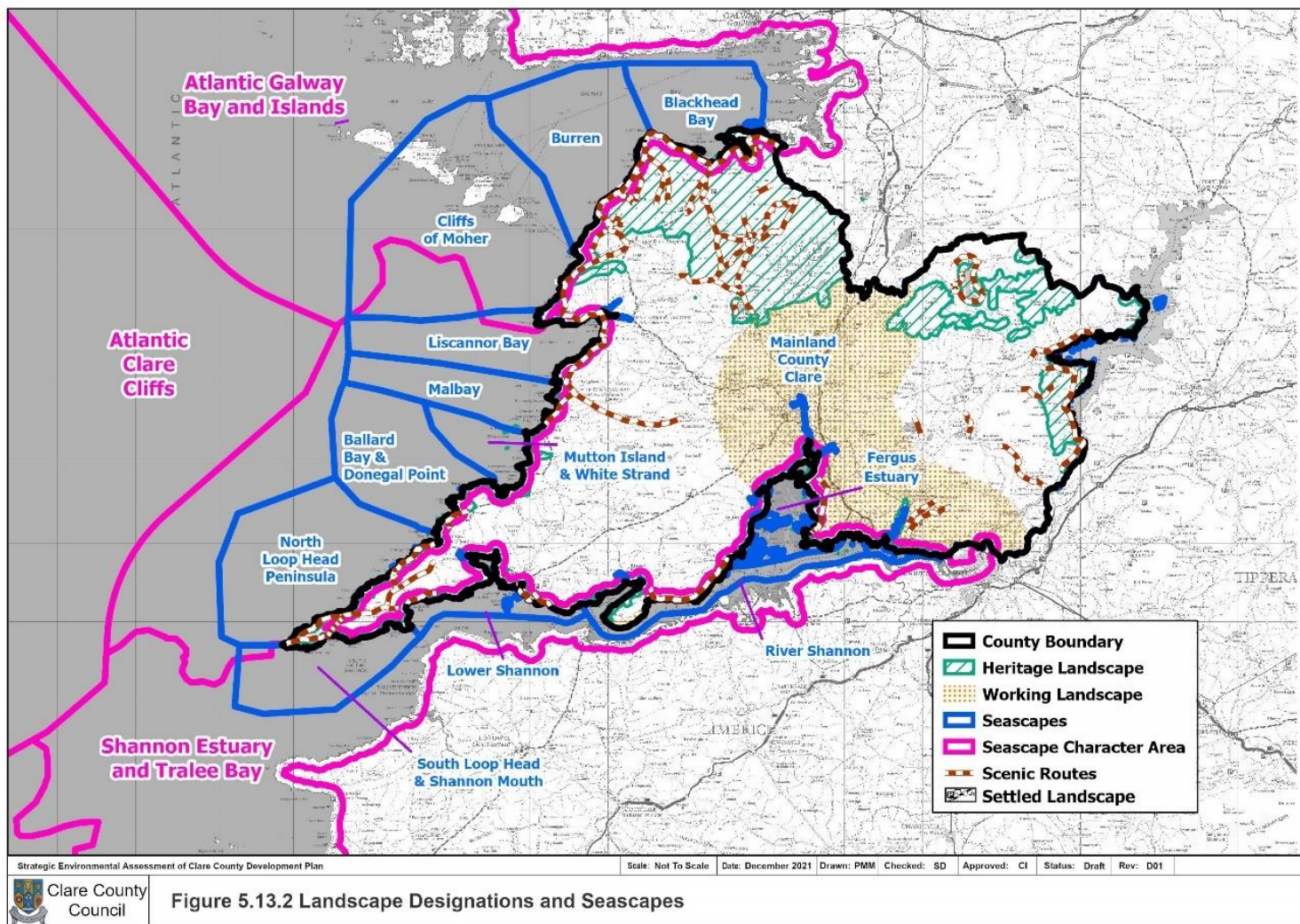
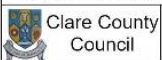
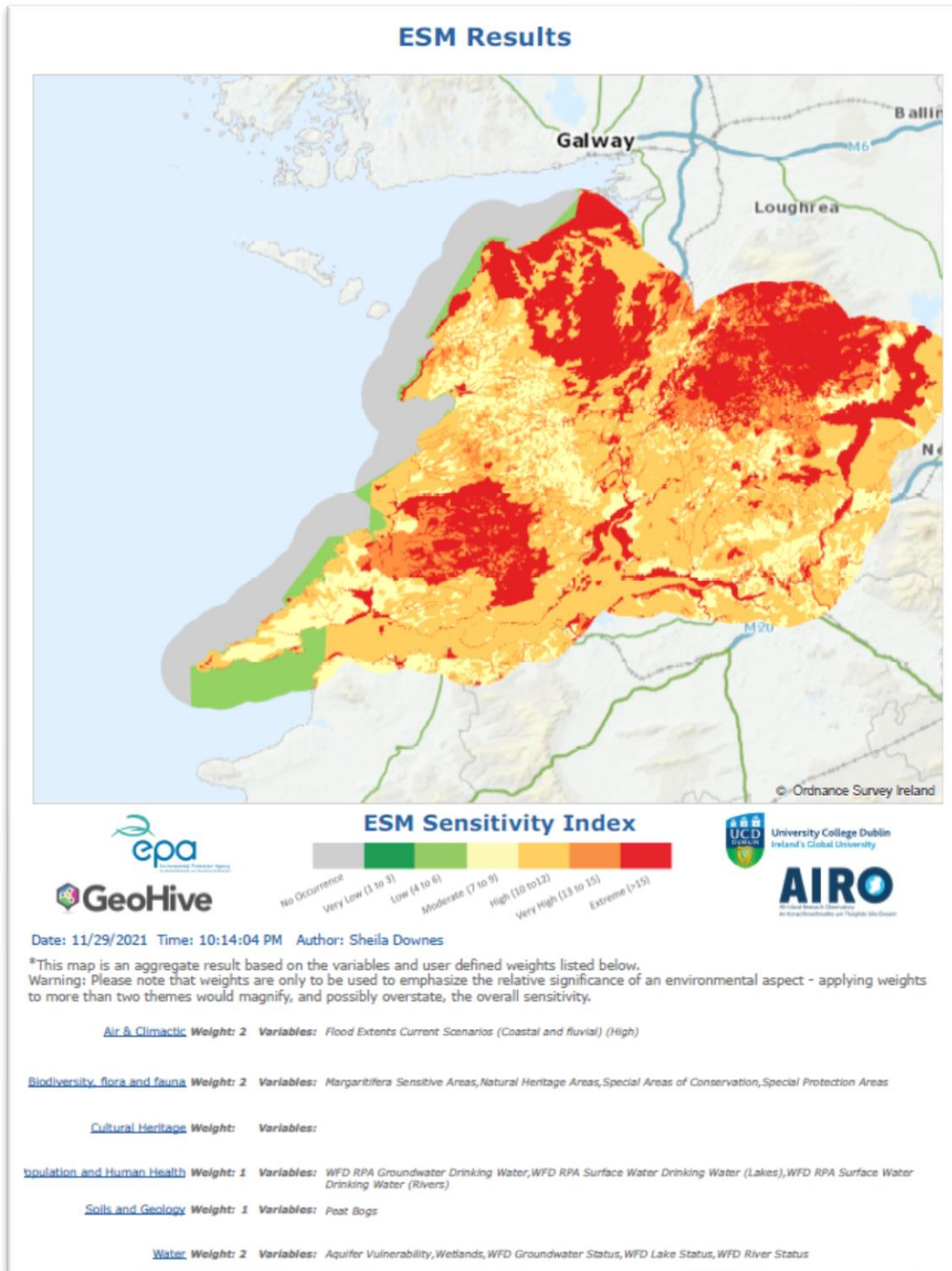


Figure 5.13.2 Landscape Designations and Seascapes





**Figure 5.13.3 Environmental Sensitivity of the Plan Area**



## Chapter Six - Environmental Assessment and Strategic Environmental Objectives

### 6.1 Introduction

Having established the environmental baseline under each of the environmental parameters in the preceding chapter, the key environmental issues have been identified. Taking account of these issues a series of Strategic Environmental Objectives have been compiled as a mechanism for ensuring environmental protection to the key components of the Clare County Development Plan 2023-2029. The SEOs are applied as follows:

1. As measures against which the implementation of the Plan objectives and zoning objectives can be assessed for potential environmental impacts.
2. As measures for monitoring any actual environmental impacts as a consequence of implementing the Plan, by devising a series of targets and indicators for each of the SEOs. This will be embedded into the fabric of the County Development Plan in order to ensure the implementation is measurable in terms of positive and negative impacts.

### 6.2 Development of Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the implementation of the Clare County Development Plan 2023-2029 can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from the implementation of the Plan. The SEOs are set out under a range of topics and are used as standards against which the provisions of the Plan can be evaluated to help identify areas in which significant adverse impacts are likely to occur, if unmitigated.

SEOs are distinct from the objectives of the Plan, although they will often overlap and are developed from International, National and Regional policies which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law, all of which are intended to be implemented at County level and integrated into any Plan for the County.

The SEA Directive requires that the evaluation of Plans and Programmes focus upon the relevant aspects of the environmental characteristics likely to be significantly affected. In compliance with this requirement, SEOs have been developed for the relevant environmental parameters, tailored to the environmental issues specific to the Plan area and are set out in **Table 6.1**. Focus has evolved throughout the SEA process, from the scoping stage to the compilation of the existing environmental baseline, identifying the key environmental issues and challenges which are prevalent within the Plan area. In the case of the Clare County Development Plan 2023-2029 area these relate particularly to water supply, wastewater treatment, flooding, biodiversity and climate change. Particular focus has been given to environmental parameters which are likely to be impacted upon as a result of implementation of the Plan. The SEOs are linked to a series of targets and indicators which can facilitate through monitoring the implementation of the Plan when adopted (see Chapter ten on Monitoring).

The primary source used in formulating the SEOs was Table 4B of the SEA Guidelines which have been tailored to be relevant to the County Development Plan area. The use of SEOs, although not a statutory requirement, does fulfil obligations set out in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended. The SEOs formulated for this SEA for the Clare County Development Plan area set out in **Table 6.1**.

**Table 6.1 Strategic Environmental Objectives**

| Parameter                    | Strategic Environmental Objective  | SEO Code         |
|------------------------------|--|------------------|
| <p><b>Climate Change</b></p> | <p><b>CC – Mitigation Measures</b></p> <p>CC1 - Reduce the need to travel/increase use of public transportation and achieve modal shift in transport across the county.</p> <p>CC2 – Decrease the usage of fossil fuels and increase both renewable resource usage and protection together with a move towards more low carbon energy sources.</p> <p>CC3 – Integrate Climate Change mitigation measures into every fabric of spatial planning through the restriction of inappropriate development/land-use zoning in flood risk zones, inclusion of green infrastructure as the status quo and the incorporation of suitable Sustainable Urban Drainage Systems (SuDs) into all developments</p> <p>CC4- Maintain and protect our natural carbon sinks (bogs/marshes/forests/fens) as decarbonising areas which can serve a dual purpose in terms of enhancement of biodiversity and mitigation against Climate Change.</p> <p><b>CC- Adaptation Measures</b></p> <p>CC5- Encourage and support the utilisation of energy-efficient and water-efficient building design to better equip homes and businesses to cope during times of shortage and service interruption, such as grey-water recycling, the use of solar PVs, passive houses etc.</p> <p>CC6 – Encourage the retrofitting of buildings with a particular focus on the existing council housing stock ensuring a Just Transition for all.</p> <p>CC7 – Avoid situations that limit adaptation to climate change such as zoning lands in close proximity to a known flood risk area.</p> <p>CC8 – In preparing the spatial plan for our county that we develop ecologically resilient and varied landscapes through the establishment and preservation of ecological</p> | <p><b>CC</b></p> |

|  |   |                              |
|--|---|------------------------------|
|  | networks and stepping stones as part of our settlement zonings and objectives and foster adaptive management practices in the face of uncertainty, favouring flexible adaptation options and allowing for alterations of the Plan as monitoring and evaluation data become available during its implementation. |                              |
| <b>Population &amp; Human Health</b><br><br>(inc. Quality of Life) | P1 – Protect, enhance, and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.  | <b>PHH</b>                   |
|  | P2 - To protect human health  |                              |
| <b>Biodiversity, Flora and Fauna</b>                               | B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species, wildlife corridors, ecosystems and geological features.   | <b>BFF</b>                   |
|  | B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.   |                              |
|  | B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.  |                              |
|  | B4 - Meet the requirements of the Water Framework Directive and the River Basin Management Plan.  |                              |
|  | B5 – To minimise and, where possible, eliminate threats to biodiversity including invasive species.   |                              |
|  | B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors.  |                              |
| <b>Soil &amp; Geology</b>  | S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites. <i>(This is in line with the Active Land Management Strategy RPO34 – Regeneration, Brownfield, Infill Development)</i>                          | <b>SG</b>                    |
|  | S2 – Minimise the excavation and movement of soils within site works  |                              |
|  | S3 – Minimise the consumption of non-renewable deposits on site.  |                              |
| <b>Water</b>   | W1 – Implement appropriate Sustainable urban Drainage Systems (SuDS) in the County with a focus on Nature Based Solutions. (Attenuate, innovate, reuse, reimagine & utilise water in a different way)   | Type equation here. <b>W</b> |
|  | W2 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of   |                              |

|                        |  |           |
|------------------------|--|-----------|
|                        | ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.   |           |
|                        | W3 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.   |           |
|                        | W4 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.   |           |
|                        | W5 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters.               |           |
| <b>Air and Noise</b>   | C1 – Minimise all forms of air pollution and maintain/improve ambient air quality.   | <b>AN</b> |
|                        | C2 - Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change.  |           |
| <b>Material Assets</b> |  |           |
| <b>Transport</b>       | T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, and shops.   |           |
|                        | T2 - Provide for ease of movement for all road users and to promote development patterns that protect and enhance road safety.   |           |
| <b>Waste</b>           | WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.   | <b>MA</b> |
| <b>Water Supply</b>    | WS1 - To ensure adequate and clean drinking water supplies.  |           |
|                        | WS2 - Improve efficiency in distribution of potable water to the population through pipe rehabilitation and to promote water conservation and sustainable water usage for long-term protection of available water resources. |           |
| <b>Waste Water</b>     | WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meets EU requirements prior to discharge.                                      |           |
|                        | WW2 - Reduce the dependency on individual proprietary wastewater treatment facilities and ensure the highest standards possible in existing and future wastewater treatment facilities.                                      |           |

|                          |  |           |
|--------------------------|--|-----------|
| <b>Renewable Energy</b>  | RE1 - Reduce waste of energy, promote use of renewable energy sources and support energy conservation initiatives across all sectors including the development of low carbon business practices and buildings.   |           |
| <b>Cultural Heritage</b> | CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.) of the county. | <b>CH</b> |
|                          | CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.   |           |
|                          | CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).   |           |
| <b>Landscape</b>         | L1 – Conserve, protect and enhance valued natural, cultural and built landscapes, views of local value and features including those of geological and aesthetic value.   | <b>L</b>  |
|                          | L2 - Maintain and enhance landscape quality within the plan area by minimising visual impacts through appropriate design, assessment and siting.   |           |

### 6.3 Application of Strategic Environmental Objectives

A key function of developing a series of SEOs is to allow for the Plan’s development and zoning objectives to be assessed in relation to the significance of any effects they are likely to have on the environment. Chapter 8 includes an assessment of both the Plan objectives and the proposed land-use zonings as presented in the Plan.



## Chapter Seven - Development and Consideration of Alternatives

### 7.1 Introduction

The development and assessment of alternatives is a legal requirement under the SEA Directive and Regulations. Article 5(1) of the SEA Directive and 13E (1) of the Planning Development (Strategic Environmental Assessment) Regulations 2004 (as amended 2011) requires that the Planning Authority considers within the Environmental Report:

- **Reasonable** alternatives taking into account the objectives and the geographical scope of the plan or programme;
- The alternatives are **identified, described and evaluated**;
- An outline of the **reasons** for selecting the alternatives dealt with;
- A **description of how the assessment was undertaken** including any difficulties (such as technical deficiencies or lack of know-how encountered in compiling the required information).

The SEA Statement, which is required at the end of the plan-making and SEA process, must include and summarise “the reasons for choosing the plan as adopted, in the light of other reasonable alternatives dealt with” (13I(c) of the SEA Regulations).

In the preparation, consideration and assessment of alternatives regard has been had throughout the process, to the EPA Research Report No. 157 “*Developing and Assessing Alternatives in Strategic Environmental Assessment*” EPA, 2014<sup>52</sup>.

Arising from good practice guidance, consideration of alternatives is identified as one of the first key steps to be undertaken in the plan preparation and SEA processes, with an introduction to the alternatives presented within the Scoping Report (Clare CDP Scoping Report, October 2020). This allowed for timely consultation with key stakeholders and environmental authorities in this regard. Clare County Council endeavoured throughout the plan making process to undertake the early consideration of alternatives. This allowed for key planning decisions to be fully informed in relation to environmental data and issues relevant to the Plan area. It was recognised that alternatives would be refined, possibly eliminated and/or added to over the duration of the plan making process. Where such decisions did arise the process and reasoning is documented and a comprehensive description of the identification, consideration and selection of alternatives, including the preferred one, is presented within this chapter of the Environmental Report.

### 7.2 Generation and Identification of Alternatives

In generating alternative scenarios, it is considered necessary to identify key components of the Development Plan within the context of considering alternative scenarios. By considering the strategic alternatives for specific plan components it will ensure a comprehensive and integrated approach to identifying a preferred/chosen alternative.

<sup>52</sup> [http://www.epa.ie/pubs/advice/ea/SEA-Alternatives-157-Published\\_web.pdf](http://www.epa.ie/pubs/advice/ea/SEA-Alternatives-157-Published_web.pdf)

The approach adopted in the consideration of alternatives for the Development Plan was to identify and describe different scenarios for key components of the Development Plan. This was undertaken within the context of any higher-level strategic actions as well as the geographical scope of the Development Plan area. Environmental sensitivity mapping was used to provide a useful guide in considering the strategic alternatives. Alternatives were derived based on a combination of planning and environmental factors for each component.

Some of the key strategic issues identified which were considered in the formulation of the different alternatives and the different approaches included the following:

### 7.3 Limitations in available alternatives

In developing alternatives, the ‘do nothing’ approach is not considered a realistic option due to the statutory requirement to review the County Development Plan, taking account of key national and regional guidelines and strategies. The “do nothing” scenario will therefore act as our baseline for the County Development Plan review. The Plan is required to be prepared by the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan.

The alternatives available for the Plan are limited by the provisions of higher-level planning objectives, including those on the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Southern Region. These documents set out various requirements for the content of the Plan including on topics such as land use zoning and the sustainable development of rural areas. The NPF and implementation Roadmap sets out projections to achieve accelerated urban growth. The NPF projects that the population of the Southern Region will grow from between 340,000 to 380,000 people by 2040.

The RSES vision for the Southern Region is led by the need for transformative change. By 2040, the population of the Region will most likely grow by 380,000 people to reach almost two million. The RSES for the Southern Region includes population projections for each Strategic Planning and Local Authority area in the region to 2031.

Developing combinations incorporating the key elements of the Development Plan, i.e. the plan framework, plan structure and settlement strategy to include zoning provide the foundation for the formulation of alternatives.

- The **plan framework** is set in so far as the administrative area for the County Development Plan covers the geographical area of the County. The internal division of administrative areas within the County remain within the Municipal Districts of Ennis, Killaloe, Shannon and West Clare as per the 2017-2023 County Development Plan.
- Defining the **plan structure** in terms of developing the core strategy and identifying the settlement hierarchy for the county;
- Defining the **settlement strategy** in relation to all the settlements within the Plan area. The central theme will be to promote sustainable communities throughout the County. Alternatives will be developed taking into account all the components of the Development Plan which are necessary to facilitate development over the lifetime of the plan. These components are fundamental to

developing a cohesive settlement strategy. Different options will be considered for each to feed into developing the overall strategic alternatives for the Development Plan. The main components include Population and Housing, Economic, Enterprise, Tourism and Retail Development, Towns and Villages, rural Development, Transport and Infrastructure, Built and Natural Heritage, Landscape and Green Infrastructure, Climate change, Renewable Energy and Environment, social, community and Cultural Development

**7.4 On-going Evolution of Alternatives**

A key challenge in the plan preparation process was identifying adequate appropriate land to meet the future needs of the plan area given the level of environmental sensitivities which exist, lack of infrastructure coupled with the requirement for a more rural life. Establishing a balance between environmental protection, integration and meeting future population needs involved an on-going iterative process between the plan-makers and the SEA, AA and Flood Risk Assessment teams. The presence of both plan making and SEA team members at all CDP meetings was key to the accomplishment of this balance which led to the continued evolution of the alternatives throughout the plan making process. Alternatives have therefore evolved and in some cases have been ‘tweaked’ in the detail as the process has progressed.

**7.5 Assessment of Alternatives**

Having identified the Strategic Environmental Objectives against which the consideration of alternatives, policies and objectives of the Development Plan will be assessed for their potential environmental impacts, the compatibility criteria to be used in the assessments are as follows;

|          |  |            |  |
|----------|--|------------|--|
| <b>+</b> | Reflects a potential positive effect   | <b>-</b>   | Reflects a potential negative effect   |
| <b>0</b> | Reflects a neutral or uncertain effect | <b>+/-</b> | Reflects that positive and negative effects are likely or that in the absence of further detail the effects is unclear |

In accordance with SEA guidelines, ‘**impact**’ is defined in terms of the quality (positive, negative or neutral), ‘**significance**’ i.e. in terms of the scale/type of development envisaged by the plan and the ‘**sensitivity**’ and/or importance of the receiving environment, and duration (short, medium, long term, permanent or temporary). It should be noted that from the onset throughout the development of both the draft and final plan, team members ensured both environmental and planning considerations were taken into account as alternatives to the plan and where possible these considerations have been documented in the alternatives tables here under.

The identification of alternatives first commenced with an exercise in **Mind Mapping** in order to capture all of the competing interests, constraints, opportunities and aspirations which play a part in developing the Clare County Development Plan. A **mind map** is a diagram used to visually organize information. A mind map is hierarchical and shows relationships among pieces of the whole. It is often created around a single concept, drawn as an image in the center of a blank page, to which associated

representations of ideas such as images, words and parts of words are added. Major ideas are connected directly to the central concept, and other ideas branch out from those major ideas.

In light of the National & Regional policy requirements, coupled with the mandatory requirements in terms of preparing a CDP the key question is how can we come up with or develop realistic, reasonable, viable & implementable alternatives? We can no longer adopt a strategy of broadly equal apportionment of future growth on the basis of historical patterns.

We need to respond to the new policy context for planning set by Government in the NPF which is centred around structured and prioritised plan-led development centred around the locations best equipped for sustainable long-term development.

If we don't do this, then we plan for car-dependent, energy intensive, rural development in locations which aren't serviced. The global COVID pandemic has also changed where people want to live, the amenities & facilities required, and therefore we need to consider the infrastructure to service this change. **Figure 7.1** outlines the key policy drivers from a national level, the priorities for Clare County Council at a corporate level, the key Strategic Economic Initiatives and the difficulties in sustainably developing our county to become a world class tourist destination all in the knowledge that Climate Change is happening and now more than ever we need to mitigate and adapt our ways in order to build resilience to the impacts.



Figure 7.1 Clare County Development Plan Mind Map

| Alternative Considered   | 0 | + | -   | +/-  |
|--|---|---|---|--|
| <p><b>Option 1: Dispersed Settlement led approach (Unrestricted settlement)</b></p> <ul style="list-style-type: none"> <li>This scenario envisages growth of all settlements within the County with heavy emphasis on accommodating housing within all settlements. Other than Ennis and other large towns (such as Shannon and Kilrush) there would be no hierarchy and growth would be envisaged in all settlements).</li> <li>Designated areas (European Sites, Groundwater Protection zones etc.) would be subject to appropriate environmental protection measures in line with the regulatory framework. As per Alternative 1, rural development policies would support agriculture, forestry, renewable energy and tourism in line with the NPF and RSES.</li> <li>This option is in effect an unrestricted option but overall not in line with the requirements of the NPF or RSES.</li> </ul>   |   |   | P1<br>T1<br>T2<br>S1<br>CH1<br>CH2<br>L1 – L2 | B1 – B7<br>W1 –<br>W3<br>P2 &<br>P3<br>S2 & S3 |
| <p><b>Principal environmental impacts identified for this scenario/evolution of alternative through Plan &amp; SEA team meetings:</b></p>  |   |   |   |  |
| <ul style="list-style-type: none"> <li>This scenario would require significant road infrastructural improvements for Miltown Malbay, Killaloe and many of the large and small villages such as Fanore, Doonbeg and Tubber.</li> <li>More generally, due to dispersed pattern and lack of hierarchy, whole infrastructure would require improvement under this scenario.</li> <li>This scenario could lead to stagnation of rural settlements as lack of housing provision and policy could result in developments in countryside and not existing settlements.</li> <li>Significant increase in rural housing with lack of policy would result in increased private wastewater treatment, potential groundwater impacts and increase in private car trips with resulting issues on road safety.</li> <li>Indirect cumulative impacts on biodiversity especially loss of ecological corridors, stepping stones and features of local biodiversity importance together with fragmentation of non designated habitats under this scenario.</li> <li>This scenario could work against the rural economy and result in adverse impacts on rural settlements and areas; there would be less recognition of the strengths and characteristics of rural settlements, in turn, there could be a range of landscape and heritage impacts, and</li> </ul> |   |   |   |  |



| <ul style="list-style-type: none"> <li>In the absence of a county level settlement hierarchy, criteria based approach to development of infrastructural requirements would be required which may not be formed through a multi-disciplinary approach.</li> </ul>  |  |           |   |                                     |
|---|--|-----------|---|-------------------------------------|
| Alternative Considered  | 0  | +         | -   | +/-                                 |
| <p><b>Option 2: Led by the requirement to provide for Climate Adaptation</b></p> <ul style="list-style-type: none"> <li>It comes to the fore of the Plan’s strategy; preface each Chapter with reference to the Climate Action and Low Carbon Development Bill October 2021 &amp; the Climate Action Plan, 2021.</li> <li>In line with the National Marine Planning Framework which looks to move development away from our coasts and to prioritise Offshore Wind including enabling works and infrastructure together with policies to tackle Climate Change.</li> <li>Avoid flood prone areas; look at Nature Based Solutions as an alternative to hard engineering, Safeguard Natural Storage Areas.</li> <li>Identify decarbonisation zones which will serve multiple purposes to avoid further flooding or dealing with flood events.</li> <li>Greater protection for our wetlands and identification of additional key wetlands inland from the coast.</li> <li>Build a Low Carbon Climate Resilient County</li> </ul> |  | T2        | P1<br>B1<br>B6<br>S2<br>S5<br>T1<br>CH1,<br>CH2<br>CH3<br>L1 & L2 |                                     |
| <p><b>Principal environmental impacts identified for this scenario/evolution of alternative through Plan &amp; SEA team meetings:</b></p> <p>A key theme across many of the submissions received in relation to the Issues Paper was Climate Change and how the Local Authority needs to take responsibility for how we adapt. Nature Based Solutions – multiple benefits in slowing the flow, reducing flood risk, increasing sustainable use of energy, carbon sequestration, coastal resilience, improving well being in urban areas</p>   |  |           |   |                                     |
| Alternative Considered  | 0  | +         | -   | +/-                                 |
| <p><b>Option 3: Employment led growth</b></p> <p>This scenario looks at employment-led growth which focuses development in key locations where employment growth is more likely to be delivered and differs from previous Plan strategies which spread growth</p>   | P3<br>S2 – S5<br>W1, W2,<br>W3 – W7<br>WA1<br>WS1<br>WS2 | P1<br>RE1 | P2<br>B1<br>B2<br>B3<br>B4<br>B5<br>S1                            | B5<br>CH1<br>CH2<br>CH3<br>L1<br>L2 |

|  |                    |  |                                |  |
|--|--------------------|--|--------------------------------|--|
| <p>based on the size and scale of the settlement in accordance with the core strategy.</p> <p>The scenario would focus on the Strategic Economic Initiatives (SEI) identified for the County.</p> <p>Key Economic Initiatives would form the focus of areas for growth within the County. This would see the population allocation and subsequent zoning focused solely within these areas.</p> <p>Key SEIs such as the South Clare/UL SDZ, Clare MEZ, the LNDR, Ennis 2040, Roche, the Shannon Estuary - Moneypoint which have all been identified as key employment and development opportunities would form the focus of the Plan and therefore growth.</p> | <p>WW1<br/>WW2</p> |  | <p>C1 – C3<br/>T1 &amp; T2</p> |  |
|--|--------------------|--|--------------------------------|--|

**Principal environmental impacts identified for this scenario/evolution of alternative through Plan & SEA team meetings:**

- This scenario would focus on areas where employment opportunities arise irrespective of the capacity of the physical infrastructure.
- As with scenario one depending on where these employment opportunities arise water treatment in particular would be a key concern. Should the employment opportunity arise outside of a settlement where no water treatment plant exists it is unlikely to be prioritised by Irish Water in this plan cycle for the incorporation of a new plant.
- Through the implementation of this scenario the focus would see higher densities in the larger areas however; many of these areas are already under significant pressure in terms of water supply and waste water treatment.
- As much of the employment led opportunity focuses on the key urban areas such as the hub town of Ennis and the gateway of Shannon this scenario would see further increased pressures on these towns in terms of transport and in particular traffic congestion at peak hours but also throughout the day.
- Many of the larger towns and villages in County Clare suffer traffic congestion either intermittently or in the case of Ennis town centre on ongoing bases. To address this and other bottleneck issues would require investment in junctions, traffic calming measures, the securing of link roads, ring roads or by-passes as generally the towns and villages in County Clare are limited in the width of the physical streetscape and so addressing this issue would require significant investment and land take leading to impacts on biodiversity, flora and fauna, soil and landscape amongst others.
- This scenario would see higher densities in the larger towns and villages (Ennis, Shannon together with the Service Towns (Kilrush, Ennistymon/Lahinch and Scarriff/Tuamgraney). It would also see the promotion of brownfield development above Greenfield development.

| <ul style="list-style-type: none"> <li>• Smaller towns such as Killaloe, Sixmilebridge, Tulla, Newmarket-on-Fergus, Miltown Malbay, Lisdoonvarna and Kilkee would most likely decline over time with fewer services provided, and this scenario would benefit certain areas above others.</li> <li>• This scenario may also focus on areas with little or no services which will reflect negatively on many of the SEOs.</li> </ul>  |   |  |           |   |
|--|---|--|-----------|---|
| Alternative Considered   | 0 | +  | -         | +/-   |
| <p><b>Option 4: Strategic Planning for Sustainable Growth in line with the requirements of the NPF and RSES.</b></p> <ul style="list-style-type: none"> <li>• NPF &amp; RSES require Compact Growth (Sequential) &amp; the reversal of rural decline in villages (NPO 3,6,7,16,18a &amp; RPO 3,34,35)</li> <li>• RPO 34 and RPO 35 specifically support the implementation of NPO 3, requiring that development plans and CORE strategies are supported by specific objectives for urban infill/brownfield development and to provide an evidence base for the availability &amp; deliverability of lands to deliver 30% of new homes within the existing built up footprint of settlements.</li> <li>• Tiered Approach to Land Zoning, Active Land Management Strategy, Rural Regeneration</li> </ul>   |   | <p>P1-P3, S1-S5<br/>W1 – W7<br/>T1 – T2<br/>WA1, WS1, WS2<br/>WW1, WW2<br/>RE1<br/>B2-B6</p> | <p>B1</p> | <p>C1 – C3<br/>CH1 –<br/>CH3<br/>L1, L2</p> |
| <p><b>Principal environmental impacts identified for this scenario/evolution of alternative through Plan &amp; SEA team meetings:</b></p>  |   |  |           |   |
| <ul style="list-style-type: none"> <li>• This scenario would see the current settlement hierarchy retained subject to serviced provision of lands.</li> <li>• The approach provides for rural protection while allowing an appropriate level of growth within lower tier settlements. This approach works with existing and planned delivery of services infrastructure and presents the best option towards sustainable transport.</li> <li>• It supports local communities and population, supporting provision of local services and infrastructure, which assists in countering isolation without impact on surrounding environment.</li> <li>• The legislation also required that the location of development should be linked to existing wastewater treatment capacity and planned investment in capacity in the future.</li> <li>• Planning which is supported by evidence;</li> </ul> |   |  |           |   |
| <p><i>The Planning System and Flood Risk Management – Guidelines for Planning Authorities</i> which were published in 2009 but since then we have CFRAMS and the publication of the associated flood risk maps which will determine the best location for development.</p>   |   |  |           |   |

| Alternative Considered   | 0 | +              | -   | +/-                               |
|--|---|----------------|---|-----------------------------------|
| <p><b>Option 5: Recognises the diverse range of natural, built and cultural heritage assets that provide Clare with a strong tourism base.</b></p> <ul style="list-style-type: none"> <li>• Tourism can be seen as a key economic driver for the future development of the county (WAW, CoM, Bunratty Folk Park, Loophead Lighthouse).</li> <li>• It supports the national and regional policies including: NPO 22 (greenways, blueways), NPO 60 (natural and cultural heritage), RPO 53 (tourism), RPO 54 (tourism and environment) and RPO 173 (tourism corridors).</li> <li>• This Tourism led approach would see development focused in towns and villages where tourism uses, transport, retail, associated business etc would be accommodated in line with the Active Land Management Strategy.</li> </ul> |   | P1-P3<br>S1-S5 | B1<br>W1 –<br>W7<br>T1 – T2<br>WA1,<br>WS1,<br>WS2<br>WW1,<br>WW2<br>RE1<br>B2-B6 | C1 – C3<br>CH1 –<br>CH3<br>L1, L2 |

**Principal environmental impacts identified for this scenario/evolution of alternative through Plan & SEA team meetings:**

- This scenario would see the current settlement hierarchy retained subject to serviced provision of lands;
- Similar wastewater issues remain in this scenario – i.e., many smaller settlements have insufficient treatment and/or capacity to accommodate future growth.
- Creates a rural housing issue for the 20-35 age bracket where they would like to work in close proximity to where they live in these remote tourist locations.
- This scenario directs development away from town centres.
- This approach allows for less protection of designated sites and achievement of WFD targets as tourism led development is directed to locations predominately in rural areas (such as Loophead and along the Wild Atlantic Way). The Wild Atlantic Way monitoring programme has demonstrated impact at the key Discovery Points in County Clare which to date have not been addressed or ameliorated.
- Uneven population growth in Clare which potentially will not align with the Core Strategy.
- Commuting patterns will change with the key focus away from the hub towns of Ennis and Shannon together with the other large towns.
- The lack of inclusion of Green Infrastructure, no emphasis on carbon reduction and Green House Gas emissions through this option reflects a significant negative on the SEOs.

When discussing this scenario, it was felt that tourism policies focused on certain areas (coupled with the additional pressures which the Wild Atlantic Way would put on the county) may not result

in positive impacts as there may be greater disturbance issues on habitats and species particularly around West and North Clare (the Burren and the coastal areas in particular) where there are a higher number of designated sites. Therefore, it is proposed that instead of targeted identified tourism areas, this scenario be altered to ensure tourism policies are open and flexible enough to accommodate tourism activities within appropriate locations. This excludes reference to existing tourism hot spots such as specific tourism policies for Bunratty, Shannon and Lough Derg which include protective and precautionary measures.

| Alternative Considered   | 0 | +  | -  | +/-                               |
|--|---|--|----|-----------------------------------|
| <p><b>Option 6: Take Alternative 4 but in terms of Water Services put the onus to deliver development in a sustainable manner back on the Government</b></p> <ul style="list-style-type: none"> <li>Irish Water presents their Investment Plan to Government which lists all the assets which require upgrade, new infrastructure etc. Government decides on spend for which IW need to prioritize the works.</li> <li>IW cannot simply provide adequate infrastructure in all locations without the required financial input.</li> <li>The CDP highlights the absence of the relevant infrastructure for a defined list of settlements within which we would like to zone and formulate objectives within the Plan which says once the finance is made available from central Government to provide for the infrastructure we will zone the settlement appropriately.</li> <li>Select the most appropriate settlement within which an Integrated Constructed Wetland could be incorporated which would see an existing agglomeration with the appropriate ground conditions receive improved treatment which would subsequently allow for development and zoning of lands.</li> <li>Example Lixnaw ICW</li> <li>Costly to deliver but cheap to run</li> <li>Significant environmental gains</li> <li><a href="https://www.water.ie/projects-plans/lixnaw-integrated-constru/">https://www.water.ie/projects-plans/lixnaw-integrated-constru/</a></li> <li>Funding streams – European Green Deal?</li> </ul> |   | P1-P3<br>S1-S5<br>W1 – W7<br>T1 – T2<br>WA1, WS1,<br>WS2<br>WW1, WW2<br>RE1<br>B2-B6 | B1 | C1 – C3<br>CH1 –<br>CH3<br>L1, L2 |

**Principal environmental impacts identified for this scenario/evolution of alternative through Plan & SEA team meetings:**

- This scenario would see the current settlement hierarchy retained subject to the provision of suitable lands;
- Similar wastewater issues remain in this scenario – i.e. many smaller settlements have insufficient treatment and/or capacity to accommodate future growth.

- Ennis retains its function of a County town and can build on the infrastructural investment in and around the town in recent years e.g. wastewater treatment plant upgrades at Clonroadmore and Clareabbey, together with the Clarecastle sewerage scheme.
- This alternative may serve to combat a small portion of the rural housing demand in discreet areas where conditions allow, and sufficient land can be acquired to provide the necessary space for such treatment systems.
- This approach allows for better protection of designated sites and achievement of WFD targets as serviced led development is directed to settlements in lieu of one-off housing and septic tank usage.
- The CDP would need to assess the success of the implementation of this alternative on a site-by-site basis incorporating water quality analysis to ensure systems are functioning correctly. This will address the success or otherwise of the alternative.
- Commuting patterns will generally remain the same with the key focus towards the hub and gateway together with the large towns if employment is maintained in these areas.

When discussing this scenario, it was felt that based on experiences across the county this was not a very viable option on a board scale. Difficulties associated with finding sufficient land to accommodate the Integrated Constructed Wetland would be challenge. Issues raised included; who would pay for the ICW (the property developer, Local Authority or Irish Water), would Irish Water take over the ICW once constructed – this wasn’t thought to be the case given as Irish Water have’t taken over other property developed treatment systems in the county. If the system was not taken over by IW or the Local Authority then how realistic is it to expert the homeowners to maintain such a novel system.

| Alternative Considered  | 0 | +  | -  | +/-                               |
|---|---|--|----|-----------------------------------|
| <p><b>Option 7: Prioritise development within the Limerick Shannon Metropolitan Area</b></p> <p>The Limerick Shannon Metropolitan Area (LSMA) covers 387km<sup>2</sup>, and has a population of over 132,400 (CSO, 2016). This is made up of approximately 96,800 residents within the Limerick City and Suburbs boundary as defined by the CSO. Limerick City is the largest urban centre in Ireland’s</p> |   | P1-P3<br>S1-S5<br>W1 – W7<br>T1 – T2<br>WA1, WS1,<br>WS2<br>WW1, WW2<br>RE1<br>B2-B6 | B1 | C1 – C3<br>CH1 –<br>CH3<br>L1, L2 |

Principal environmental impacts identified for this scenario/evolution of alternative through Plan & SEA team meetings:

- This scenario would see the prioritisation and development of Shannon, the South Clare/UL Strategic Development Zone, Sixmilebridge (Small Town), Athlunkard, Bunratty, Clonlara, Parteen, Ballycannon North, Meelick (Large Villages), Ardnacrusha, Cratloe, O’Briensbridge (Small Villages)
- There is a clear link between the Settlement Hierarchy and the role of the Limerick-Shannon Metropolitan Area and the Key Town of Ennis, the population target for the County, housing supply targets and residential land requirements for each settlement in the County Clare Settlement Hierarchy.



- Aligns with the requirements of the RSES for the Southern Region where a strategy is pursued that builds on cities and metropolitan areas as engines of growth and seeks in parallel to re-position the region’s strong network of towns, villages and diverse rural areas in an economically resilient, imaginative and smart manner to create a sustainable competitive advantage for the region.
- Uneven population growth in Clare but with adoption of core strategy that is evidence based. The CDP will be able to assess the success of addressing this issue over the lifetime of the plan.
- Commuting patterns will change with the key focus towards the Limerick Shannon Metropolitan Area and therefore directed to the east of the county and towards Limerick.
- Prioritising the metropolitan area would perhaps be to the detriment of north and west Clare.

## 7.6 Evolution of the Alternatives

During the course of development of the County Development Plan an Alternatives workshop was held between the Planning and Environmental Assessment Team on the 5<sup>th</sup> of February 2021. In addition, meetings with Irish Water and the consultants involved in preparing the Renewable Energy Strategy for the County also assisted in developing the alternatives and selected the preferred option. A presentation was given by the SEA Team on the mind mapping exercise undertaken to identify the key issues which would focus the identification and development of alternatives. Key questions that were posed included;

- Strategically are there alternatives?
- From a policy perspective (NPF,RSES etc) are there alternatives?
- From a Development Management perspective are there alternatives?
- From a Natural Heritage perspective are there alternatives?

The mind mapping exercise looked at the decrease in population allocation and the increase in rural relocation. How tourism is looking to make the Cliffs of Moher a world class visitor experience. The onus/opportunity to provide for the Offshore Renewable Energy sector and its emerging market. Climate Adaptation and the requirement to move development away from our coastline, away from flood risk areas all in the knowledge that pluvial flood risk is increasing. Should we focus on the Limerick Shannon Metropolitan Area only or on the core Strategic Economic Initiatives within the council?

Through discussions it was felt we can no longer adopt a strategy of broadly equal apportionment of future growth on the basis of these historical patterns. We need to respond as a county to the new policy context for planning by Local Authorities set by Government in the NPF which is centred around structured and prioritised plan-led development centred around the locations best equipped for sustainable long-term development.

If we don’t do this then we plan for car-dependent, energy intensive and rural development in locations which aren’t serviced.

However, the global pandemic has changed where people want to live and also need to live, more amenities and facilities are required together with the infrastructure to service this change.

The NPF and the RSES require Compact Growth (Sequential) and reversal of rural decline in villages (Sustainable Development/Rural Regeneration) this is in line with National Policy Objectives (NPO) 3, 6,7,16 and 18a and Regional Policy Objective (RPO) 3, 34 and 35.

RPO 34 (Active Land Management - Regeneration, Brownfield & Infill Development) and RPO 35 specifically support the implementation of NPO 3, requiring that development plans and core strategies are supported by specific objectives for urban/brownfield development and provide an evidence base for the availability and deliverability of lands to deliver 30% of new homes within the existing built-up footprint of settlements.

### 7.7 Alternatives and Climate Change

In formulating and considering alternatives with regard to the future of the plan area, the importance of incorporating resilience to climate change, through provision of appropriate adaptation measures has been a key consideration. The assessment of alternatives against their resilience to climate change will be a key factor in determining the overall preferred approach to be adopted by the County Development Plan area.

### 7.8 Preferred Alternative

Following an assessment and evaluation of the alternatives set out in this chapter together with round table discussions between the plan making and environmental teams the preferred way forward in relation to the future land-use plan for the County is a combination of **Alternative 2 (Led by the requirement to provide Climate Adaptation)** and **Alternative 4 (Strategic Planning for Sustainable Growth in line with the requirements of the NPF & RSES combined with Option 6 with respect to Waste Water Infrastructure)**.

The Draft Plan is based on the principles of proper planning and sustainable development which means that development will be promoted in accordance with appropriate international, national and regional policy and guidance and in particular the NPF and RSES. The central focus of the Core Strategy **Chapter 3** is on residential development in ensuring that there is an acceptable equilibrium between the supply of zoned, serviced land for the projected demand for new housing over the lifetime of the Plan. It details the anticipated population growth for the County (i.e. 8,373), the expected housing supply target (i.e. 4,500), and the network of settlements for the County and the role and function of the settlements.

The Core Strategy considers all aspects of what is needed to deliver sustainable communities having regard also to the availability of infrastructure, the carrying capacity of the environment and the need to support economic development. The key areas considered in the preparation of the Core Strategy for County Clare include the overall Planning Strategy and Climate Change Strategy, population, housing, retail, town centres, transport, infrastructure, employment, economic growth and the environment.

**Alternative 2** - Alternative 2 represents a balanced recognition of established patterns of development in the county having regard to the requirements of the NPF and RSES and in particular the key

objectives, targets and approach to Climate Change, Adaptation and Mitigation. Following the publication of the Climate Action Charter in 2019 it was apparent that Local Government have a lead role to play in providing robust leadership in advancing Ireland's commitment to achieving a net zero carbon energy system objective for Irish society and in the process, create a climate resilient, vibrant and sustainable country at the local and regional level. Clare County Council recognises this role and as such have developed a County Development Plan which provides for rural protection while allowing an appropriate level of growth within lower tier settlements. This approach works with existing and planned delivery of services infrastructure and presents the best option towards sustainable growth. It provides for an extremely high level of protection and resilience to climate change and flooding through the extensive inclusion of buffer spaces along rivers, streams and ecologically significant hedgerows and wildlife corridors. **Alternative 2** is a balanced sustainable approach to planned development for the county. As such Alternative 2 has been selected as the basis of the preparation of the Draft Development Plan.

**Alternative 4** in conjunction with 6 represents a balanced recognition of established patterns of development in the county having regard to the requirements of the NPF and the RSES. The approach provides for rural protection while allowing an appropriate level of growth within lower tier settlements. This approach broadly works with existing and planned delivery of services infrastructure and represents the best option towards sustainable growth. However, it also seeks to recognise the under investment by Government to allow Irish Water to implement sustainable wastewater treatment infrastructure across our county. It provides an innovative and alternative solution to the lack of waste water infrastructure in some of our key settlements where growth is anticipated but for which it cannot currently be accommodated due to the lack of waste water infrastructure.

## Chapter Eight - Assessment of Effects of Implementing the Clare County Development Plan 2023-2029

### 8.1 Introduction

This section is a summary of the detailed assessment of the objectives, land-use zonings and volumes contained within the Clare County Development Plan 2023-2029, which will identify where, if any, effects on the environment may occur. These may be positive or negative effects, direct, indirect, synergistic, cumulative and/or in-combination effects.

### 8.2 Environmental Issues

Having established the environmental baseline and the key environmental sensitivities for the Plan area in Chapter 5, and the Strategic Environmental Objectives in Chapter 6, an assessment for any potential environmental effects from implementing the Clare County Development Plan 2023-2029 can be undertaken.

Three elements of assessment have been undertaken which include:

1. An assessment of the objectives of the Plan (See **Appendix A**);
2. An assessment of the land-use zonings and site-specific development objectives (See **Appendix B**);
3. An assessment of cumulative and in-combination effects (See **Appendix C Tables 8.2 – 8.5**).

The assessment process has been undertaken using matrix assessments which reflect ratings in relation to potential significant effects on the environment as a result of implementation. The matrix assessment ratings used are as follows:

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

Where there is a combination of these symbols (0/+ or 0/-) this indicates that any effect maybe neutral or positive, or neutral or negative depending on how the objective is delivered.

Where negative effects are identified mitigation measures are recommended to either include new objectives, or to amend or include additional text within the Plan objectives and/or zoning objectives.

### 8.3 Environmental Assessment and Evaluation

Strategic Environmental Assessment is an iterative process carried out in parallel with the development of the Clare County Development Plan 2023-2029 preparation process. The principal reason for doing so is to ensure that any negative environmental impacts are highlighted at an early stage enabling them to be ‘designed’ out as much as possible as early in the preparation process. The result is a more robust Plan which has had regard to the environmental issues identified within the Plan area and any remaining negative effects should be minimal and capable of being addressed

through appropriate mitigation. This was achieved through the integration of the Environmental Assessment Officer, Heritage Officer and others in the discussions, meetings and preparation of the Plan in conjunction with the Forward Planning Team. In addition, all other relevant departments were also consulted for e.g. Environment, Housing, Roads etc in order to ensure the Plan was as robust as possible and met the 3 pillars of sustainability.

#### 8.4 Assessment of Plan Objectives

By assessing the Plan objectives in Volume 1 of the Clare County Development Plan 2023-2029 against the environmental objectives it identified where there were any incompatibilities and/or conflicts between them and where environmental considerations needed to be strengthened. Where considered necessary the assessment resulted in recommended mitigation for some objectives. The assessment matrix is included in **Appendix A** and mitigation is addressed in **Chapter 9** of this report.

Each Chapter of the Clare County Development Plan 2023 – 2029 list the objectives relating to the topic of that Chapter as outlined below;

|    |  |
|----|--|
| 1  | Introduction & Vision  |
| 2  | Climate Action   |
| 3  | Core Strategy  |
| 4  | Urban & Rural Settlement Strategy  |
| 5  | Housing  |
| 6  | Economic Development   |
| 7  | Retail   |
| 8  | Rural Development & Natural Resources  |
| 9  | Tourism  |
| 10 | Sustainable Communities (Community Development & Social Infrastructure)                    |
| 11 | Transport, Service Infrastructure & Energy (Physical Infrastructure, Environment & Energy) |
| 12 | Shannon Estuary  |
| 13 | Marine & Coastal Zone Management   |
| 14 | Landscape  |
| 15 | Biodiversity, Natural Heritage & Green Infrastructure                                      |
| 16 | Architectural, Archaeological & Cultural Heritage  |
| 17 | Towns & Villages   |
| 18 | Design & Placemaking a (design and built environment)                                      |
| 19 | Land Use & Zoning  |
| 20 | Implementation & Monitoring  |

Each Chapter's objectives were evaluated against the criteria in **Table 8.1**. The criterion considers whether the objectives were likely to improve conflict or have a neutral interaction with the provisions of the Plan.

**Table 8.1 Criteria for Appraising the Effect of the Plan Objectives on the SEOs**

| Parameter   | Compatibility Criteria |  |     |  |
|---|------------------------|--|-----|--|
| Biodiversity  |                        |  |     |  |
| Population (incl. Human Health and Quality of Life) | +                      | Reflects a potential positive effect   | -   | Reflects a potential negative effect   |
| Soil & Geology                                      |                        |  |     |  |
| Water   |                        |  |     |  |
| Air Quality and Climatic Factors                    |                        |  |     |  |
| Material Assets                                     | 0                      | Reflects a neutral or uncertain effect | +/- | Reflects that positive and negative effects are likely or that in the absence of further detail the effects is unclear |
| Waste   |                        |  |     |  |
| Water Supply  |                        |  |     |  |
| Waste Supply  |                        |  |     |  |
| Renewable Energy                                    |                        |  |     |  |
| Cultural Heritage                                   |                        |  |     |  |
| Landscape   |                        |  |     |  |

## 8.5 Land Use Zoning

In considering land appropriate for development for uses, SEA has contributed to identifying where sites are unsuitable; those that required amendment in terms of area, nature or extent; those suitable with specific requirements set out in site development objectives; and those which are generally acceptable.

Where the process has identified sites where the impact is uncertain due to location specific issues and where a small number of areas have been identified to have a potential negative effect on the environment, mitigation measures are proposed which are designed to limit or eliminate identified impacts. In addition, monitoring the implementation of the Plan, as discussed in **Chapter 10**, will ensure that if there is any impact it will be identified, and appropriate mitigation can then be put in place.

In zoning land for different land-uses in the Clare County Development Plan 2023-2029, the zonings are categorised in accordance with Myplan.ie<sup>53</sup>. The zoning classifications and definitions are set out in **Table 8.2**.

### Land-Use Zoning Classifications and Definitions

The following describes the individual zonings proposed in each of the settlement plans/local area plans:

#### Agriculture

This zone is for the use of land for agricultural purposes and farming-related activities and to preserve the amenity of the town or village setting. Individual dwellings for permanent occupancy of established landowners (i.e., within family ownership for the preceding 10 years) will be open for consideration subject to normal site suitability considerations.

<sup>53</sup> Department of Environment, Community and Local Government Initiative



**Airport**

Land zoned for airport development shall be used for airport-related uses, buildings, infrastructure and services and compatible aviation-related businesses and industries.

**Buffer Space**

Buffer spaces are intended to provide a buffer of undeveloped land for the conservation of biodiversity, visual amenity or green space. Buffer spaces may include natural features such as floodplains, riparian zones, turloughs, valuable biodiversity areas including designated sites, amenity areas, woodlands, hedgerows, green spaces and archaeological features.

**Commercial**

The use of land zoned for ‘commercial’ purposes shall be taken to include the use of the lands for commercial and business uses including offices, service industry, warehousing and the facilitation of enterprise/retail park/office type uses as appropriate. Retailing is open for consideration on this zoning, provided that a sequential test is carried out and the lands are demonstrably the optimum location for the nature and quantum of retail development proposed.

**Neighbourhood Centre**

It is intended that land zoned for ‘neighbourhood centre’ will be developed to provide an appropriate range of local services including commercial, retail and community uses, to support the population of the surrounding area.

**Community**

The development of lands for community uses shall be taken to include the use of lands for community, civic, health services, public or educational uses including the provision of schools, community halls, healthcare facilities and any other facility that is intended to provide some form of community service. Public or private delivery is not a factor in this case.

**Enterprise**

Lands zoned for ‘enterprise’ shall be taken to include the use and development of land for high end research and development, business science and technology-based industry, financial services, call centres/telemarketing, software development, data centres, enterprise and incubator units, small/medium manufacturing or corporate office in high quality campus/park type development.

It is intended that such developments will have high quality architectural design and landscaping. This zoning allows for ‘walk to’ support facilities such as canteen, restaurant or crèche services which are integrated into employment units and are of a nature and scale to serve the needs of employees on the campus.

This zoning also allows for associated power generating infrastructure as well as transportation infrastructure such as car and bicycle parking and bus stop shelters. This zoning excludes general retail, retail park outlets, motor sales/servicing activities and heavy industrial undertakings.

Lands zoned for ‘enterprise’ in large villages and small villages shall be taken to include the use and development of land for small-scale business and enterprise development such as incubator units, craft centres/workshops, small-scale manufacturing, local digital/technology business etc. Retail use on these sites shall only be considered where it is ancillary to the main activity taking place.

Enterprise developments in large villages and small villages must have a high standard of architecture and landscaping and must be relative and appropriate to their scale, size and character.

### **Existing Residential**

The objective for land zoned ‘existing residential’ is to conserve and enhance the quality and character of the areas, to protect residential amenities and to allow for small scale infill development which is appropriate to the character and pattern of development in the immediate area and uses that enhance existing residential communities. Existing residential zoned land may also provide for small-scale home-based employment uses where the primary residential use will be maintained.

### **Industry**

The use of land for industry uses shall be taken to include the use for industrial processing or manufacturing of a scale and nature where there is significant goods, manufacturing, and related issues. Uses of this nature may result in the generation of emissions.

This type of industrial activity may also be subject to the SEVESO Directives, the main EU legislation dealing with the control of onshore major accident hazards involving dangerous substances.

A mix of uses such as office-based or retail development is not considered appropriate in areas zoned for industrial development.

### **Light Industry**

The use of land for light industry shall be taken to include uses where the primary activity is the manufacture of a physical product. The use for industry/manufacturing, incubator units, distribution, open storage, transport operating centres and the treatment/recovery of waste material is acceptable.

Processes carried out, or the machinery/plant installed on land zoned for Light Industry must be such that they could be carried out or installed without detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust, or grit.

Uses such as retail development or small/medium office-based developments are not considered appropriate in areas zoned for light industry, save where it is ancillary to the main use of the development. Large-scale office type development (>1000m<sup>2</sup>) such as call centres are open to consideration subject to compatibility with surrounding land uses.

### **Low Density Residential**

This zoning refers to the use of lands to accommodate a low-density pattern of residential development, primarily detached family dwellings. The underlying priority shall be to ensure that the character of the settlement/area is maintained and further reinforced by a high standard of design.

Proposed developments must also be appropriate in scale and nature to the areas in which they are located.

### **Marine-Related Industry**

Land zoned for marine-related industry shall provide for marine-related industry and large-scale uses that create a synergy with the marine use. Marine-related industry shall be taken to include the use of land for industry that, by its nature, requires a location adjacent to estuarine/deep water including a dependency on marine transport, transhipment, bulk cargo or where the industrial processes benefit from a location adjacent to the marine area.

### **Maritime/Harbour**

The use of land for maritime/harbour related activity shall be taken to include the use of land, including harbours and piers, that will facilitate small-scale, water-based commercial or tourism activity and associated facilities including carparking facilities.

### **Mixed Use**

The use of land for ‘mixed use’ developments shall include the use of land for a range of uses, making provision, where appropriate, for primary and secondary uses e.g., commercial/retail development as the primary use with residential development as a secondary use. Secondary uses will be considered by the local authority having regard to the character of the given area.

On lands that have been zoned ‘mixed-use’ in or near town or village centres, a diverse range of day and evening uses is encouraged and an over-concentration of any one use will not normally be permitted.

### **Open Space**

It is intended that lands zoned ‘open space’ will be retained as undeveloped open space, mainly for passive open space related activities. The open space/park areas could contain active play facilities such as children’s play areas, but these would only be a small component of the overall areas involved.

### **Recreation**

This category of zoning provides for the use of land for the provision of sports grounds/playing pitches, golf courses, tennis courts and other active indoor and outdoor recreational facilities that contribute to meeting the leisure, recreation and amenity needs of the immediate community and/or the wider area.

### **Residential**

Residential use shall be taken to primarily include the use of land for domestic dwellings. It may also provide for a range of other uses particularly those that have the potential to foster the development of new residential communities e.g., schools, crèches, open spaces etc.

### **Strategic Residential Reserve**

It is acknowledged that within the plan period not all lands within the settlement boundaries of the serviced settlements will be required to 2028. In these cases, some lands have been included as a strategic residential reserve, where they comprise infill or contiguous sites or have a planning history for residential use and can form part of the long-term sequential expansion of the settlement were considered appropriate.

In addition to protecting these lands for the long term expansion of these settlements, consideration may be given to the development of some of the strategic reserve before the end of the current plan period where the Planning Authority is satisfied that the development of zoned land is progressing faster than expected and a shortage of available lands may arise where residential zoned land may not be delivered as expected and a shortage may arise or where residential zoned land may not be delivered as expected during the plan period.

The development of such lands will only be considered from the beginning of year four of the Plan (October 2026) in order to give zoned land an opportunity to come forward for development, and where it can be clearly demonstrated to the satisfaction of the planning authority that a zoned parcel of land will not come forward for development due to infrastructural or other demonstrable constraints during the remaining period of the Plan, and the proposed strategic residential reserve lands can be serviced and offer a reasonable substitute in terms of being delivered within the lifetime of the plan and are sequential development with good connectivity and access to services and amenity.

### **Tourism**

Land zoned for tourism development shall be used for a range of structures and activities which are primarily designed to facilitate tourism development and where uses are mainly directed at servicing tourists/holiday makers and visiting members of the public.

### **Transport Utilities**

It is intended that land zoned ‘transport utilities’ will be reserved for the provision of infrastructure required to move people and goods by rail, bus, car or bicycle including existing and proposed train stations, bus stations and coach parks.

### **University Zone**

It is intended that lands identified as ‘University Zone’ will be reserved to accommodate development and uses associated with higher education including research and development, student/campus accommodation, residential uses complementary to the uses contained within the University Zone, student support services, enterprise/start-up business units, commercial units linked to the research and development role, recreation, sport and social facilities and open spaces. This zoning is suitable for designation as a Strategic Development Zone (SDZ).

### **Utilities/Infrastructure Safeguard**

It is intended that land zoned ‘utilities’ and ‘infrastructure safeguard’ will be reserved for the existing and future provision of key infrastructural services and the upgrading of existing services and

infrastructure relating to road, rail, air, electricity, telecommunications, gas, water and wastewater treatment services.

The Plan contains a land-use zoning matrix which lists the most common forms of development and classifies what the proposed use is acceptable in principle, or otherwise, on lands that are zoned for a particular use, to promote the orderly development of settlements and to guide future development to the most appropriate locations within the Plan area.

In addition to an assessment of the objectives of the Plan, an assessment of the land-use zonings within the Plan area has been undertaken, specifically in relation to residential use including high and low density, Opportunity Sites and other land-uses include industry, enterprise, Tourism, and infrastructure safeguards etc.

The assessment of land-use zonings involved both desktop (GIS, aerial photography) and on-site assessment. This process resulted in an on-going flow of environmental information regarding site specific land-use zoning proposals. Consequently, the iterative nature of the SEA process has meant that in the evolution of the proposed land-use zonings presented in the Plan, they have been informed by environmental assessment. This has led to several zoning adjustments in the course of its preparation in relation to boundaries, zoning removal, and suggested inclusion of alternative areas and in some cases specific mitigation provisions within specific zoning objectives. The Plan also had the benefit of the outcome of the appropriate assessment process and Strategic Flood Risk Assessment, both of which the SEA had regard to in its assessment.

#### **8.5.1 Assessment of Zoned Lands and Environmental Issues**

The baseline information presented in **chapter 5** shows how the plan area is characterised by several environmental sensitivities. Some of these sensitivities will affect the potential development of all land-uses within the plan area. The sensitivities include:

- High to extreme groundwater vulnerability throughout the plan area presents a significant environmental vulnerability that needs to be considered in all future land-uses within the Plan area.
- Wastewater treatment is a particular issue throughout the County of Clare both from a rural and urban perspective. Within many rural areas and settlements throughout the county there is either no WWTP present, they are over capacity or insufficient treatment is occurring. As a pre-requisite to any development taking place on zoned lands within the county, it is critical to have the infrastructure upgrade in place to accommodate future developments or for any on-site systems that can comply with the revised EPA Codes of Practice. An objective in the Plan must seek to ensure that, prior to the commencement of any development; future development can be serviced by wastewater treatment which complies with the Water Framework, the EU Urban Wastewater and the Birds and Habitats Directive. This issue and others have been highlighted in all relevant assessments of settlements as part of the SEA process contained in **Appendix B**.

It should also be noted that in the case of all settlements and zonings within flood zones identified in **Figure 5.10.7** “Flood Zones A, B and recorded flood events” within the plan area that:

- Flood defences that have been/are being put in place are based on protecting existing land-uses of any benefitting lands and NOT any potential future change in use or new development.

- Impacts of climate change in relation to future flooding need to be considered with regard to stipulating development specifications which provide for resilience to flood risk and recommendations given accordingly.
- Nature Based Solutions should be assessed as part of the options in any flood scheme from the very inception of the project.

### 8.5.2 Assessment of other Volumes

**Volume 4 - Record of Protected Structures (RPS)** – Siobhan Mulcahy Architects were appointed by Clare County Council to undertake a review of the current Register of Protected Structures as contained in the Clare County Development Plan 2017-2023 (as amended).

All structures contained on the RPS are afforded protection under Section 58(1) of the Planning and Development Act together with the protective objectives arising from the CDP. The RPS does not propose any works or other designation other than to protect the additions to the RPS therefore should any works arise, they will be dealt with at a Development Management level and objectives applied as appropriate.

Any deletions or modifications to the existing Record of Protected Structures (Volume 4 of the CDP 2017-2023) were reviewed by a conservation expert to ensure the changes were appropriate. These changes have been taken into consideration in the preparation of the SEA ER and the associated CDP. No further recommendations are arising from the SEA in this regard.

#### **Volume 5 – Renewable Energy Strategy**

RPS Environmental Consultants were appointed by Clare County Council to undertake the preparation of an Energy Emissions Balance of the County and to prepare a new Clare Renewable Energy Strategy (RES) which will form Volume 5 of the Clare County Development Plan 2023-2029. The RES was subject to appropriate assessment as part of the overall assessment of the County Development and was also subject to a separate Strategic Environmental Assessment in line with S.I No. 435 of 2011. The findings of the SEA as contained in the Environmental Report associated with the RES have been fully incorporated into the SEA of the CDP and subsequently the associated Volumes and Chapters of the Plan itself. The mitigation arising from the SEA of the RES (which incorporates the AA Mitigation) has been incorporated in section 9.5 of this Environmental Report – *9.5 Mitigation Associated with the RES*. Critically the RES included for a review of the Climate Action Plan 2021 which is critically in terms of meeting our national climate change targets. The key headline targets in CAP 2021 is an increase from 70% RE to 80% RE by 2021. The Clare RES addresses these national targets at a county level through the following additional capacity which will be delivered mainly by:

- Offshore Wind: the Clare RES includes policies to prepare for offshore wind but no numerical targets.
- Solar Onshore – Clare County Council has set ambitious targets for Clare (300MW in total)
- No increase in onshore wind capacity in the CAP 2021.

Key to the delivery of these targets and the successful implementation of the RES will be the monitoring associated with the Strategy. The key monitoring targets and indicators are aligned with Table 10.1 of this Environmental Report. Under the Planning and Development Act 2000, as amended, Clare County Council has a statutory obligation to secure the implementation of the objectives of the Clare County Development Plan. Clare County Council is fully committed to implementing this development plan. The Council will take a leadership role to progress and secure the development plan policies and objectives together with the monitoring of these and their associated targets. As



outlined in Chapter 20 of the Written Statement the implementation and monitoring framework will function as a formal feedback loop, and through ongoing evaluation and reporting will provide the evidence base for the formulation and refinement of future planning policy, including subsequent County Development Plans. The framework will assist the Planning Authority in meeting its statutory reporting requirements including:

- The 2 Year Progress Report of the County Development Plan (as required under Section 15(2) of the Planning and Development Act 2000, as amended). This is a full report on the implementation of the objectives of the plan and will be prepared two years after the Plan comes into effect. This report will highlight any difficulties that may arise in the achievement of the objectives and give an opportunity to rectify any problems that may arise.
- Report to the Regional Assembly setting out progress made in supporting objectives of the RSES (as required under Section 25A (1) of the Planning and Development Act, as amended).

### **Volume 6 – Wind Energy Strategy**

The Clare Wind Energy Strategy forms part of the Draft Clare County Development Plan 2023-2029. In accordance with the requirements of the Department of Environment, Community and Local Government as set out in Circular PL20-13, the current “Clare Wind Energy Strategy 2017-2023” has not been reviewed as part of the preparation of this draft plan. Circular PL20-13, dated 20<sup>th</sup> December 2013, states that in the cyclical review of a Development Plan it is advised that, until the national policy review processes have concluded in relation to the Wind Energy Development Guidelines and the Renewable energy Export Policy and Development Framework, local authorities should defer amending their existing Development Plan policies and should instead operate their existing Development Plan policies and objectives until the completion of these processes and further advice is issued.

The local authority has had regard to all the submissions received during the pre-draft consultation stage of the Development Plan. However, any issues raised with regard to wind energy policy will be addressed in the context of the requirement to comply with Circular PL20-13.

**Volume 7 – Retail Strategy** – this strategy was prepared by KPMG Future Analytics and took into consideration the existing Mid – West Retail Strategy 2010 – 2016 for the Limerick – Shannon Metropolitan Area, County Limerick and County Clare. The output from this strategy included the preparation of policy objectives which were assessed as part of the SEA process with mitigation devised where appropriate in the form of SEA recommendations as contained in Appendix A – Assessment of Plan Objectives.

**Volume 8 – Housing Strategy** – this strategy was prepared by KPMG Future Analytics on the behalf of Clare County Council to meet the statutory requirements of the Planning and Development Act, 2000 (as amended). The purpose of the Housing Strategy is to outline the existing and future housing requirements of County Clare and to set out measures for the Council to plan for and address these needs.

This Housing Strategy informs the policies and objectives of the Clare County Development Plan 2023-2029, playing a key role in translating national and regional housing policies to the local level. Since

the previous Joint Housing Strategy<sup>54</sup> and Clare County Development Plan 2017-2023 were prepared there have been significant changes in planning legislation and policy, especially the introduction of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Southern Regional Assembly.

The NPF requires each local authority to develop a Housing Need Demand Assessment (HNDA) which must underpin and support the preparation of housing strategies and housing policy. KPMG Future Analytics have developed a robust methodology to inform decision-making around the current and future housing supply and investment in housing related infrastructure and services in County Clare in accordance with the NPF and all other relevant statutory requirements. The output from this strategy included the preparation of policy objectives which were assessed as part of the SEA process with mitigation devised where appropriate in the form of SEA recommendations as contained in Appendix A – Assessment of Plan Objectives.

**Volume 9 – Strategic Integrated Framework Plan for the Shannon Estuary (SIFP)** There is no change to the SIFP since the publication of the 2017-2023 County Development Plan. Therefore, all mitigation measures as contained within the previous Plan are carried over into the 2023-2029 Plan.

### 8.6 Cumulative/In-combination 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 County Development Plan.

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” (EPA SEA Process Checklist (2011)). 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.

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.

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<sup>54</sup> Joint Housing Strategy for Clare Local Authorities and Limerick City and County Councils 2010-2017

### 8.6.1 Legislation

The consideration of cumulative effects is a requirement of the SEA Directive (2001/42/EC). It states under Article 5(1) that an Environmental Report shall be prepared, and relevant criteria is provided in Annex I, which states that;

*“The likely significant effect (these effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative 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”.*

*Under Article 3(5) of the SEA Directive the determination of likely significant effects is addressed and within this it is stated that Member States shall take into account the relevant criteria within Annex II. Under Annex II (2) it is stated that “characteristics of the effects and of the area likely to be affected, having regard, in particular, to the cumulative nature of the effects”.*

### 8.6.2 Planning Context

The National Planning Framework (NPF) sets out the national context for spatial planning with the overall aim of achieving a better balance of economic, social and physical development. This NPF together with the Regional Spatial Economic Strategy (RSES) must inform the development within County Clare. The RSES provides detailed policy and guidance together with a long-term planning framework for the development of the region, thereby providing a strategic forum in which cumulative effects can be identified. The Planning and Development Act clarifies the key obligations required of Planning Authorities whilst envisaging close alignment between the NPF, the RSES, Development Plans and Local Area Plans. County Clare lies within the geographical area of the Southern Region in terms of the Regional Spatial and Economic Strategies. In accordance with national and European legislation, SEA was undertaken to assess the potential significant environmental impacts and effects of the RSES. Environmental factors have been integrated into the development of the RSES and the related decision-making process through the SEA process, thereby addressing cumulative effects within the broad context of the Southern Region.

The Clare County Development Plan 2023-2029 sets out the strategy for proper planning and sustainable development of the County. There are several potential pressures on the environment from the implementation of the policies and objectives contained within the Plan. The key environmental sensitivities affected by these potential pressures are addressed in the following sections.

### 8.6.3 Assessment Approach

The following approach has been undertaken in relation to assessing the potential cumulative and in-combination effects of the County Development Plan. It includes;

- An assessment of International, National, Regional and Local Plans, Policies and Programmes that have the potential for cumulative or in-combination effects
- An assessment of the County Development Plan Objectives 2023- 2029 in relation to the other objectives contained within Volumes 5,6,7,8 & 9
- An assessment of the key elements of the County Development Plan against one another to identify any internal conflict between the policies and objectives (In-combination effects)

### 8.6.4 Cumulative effects with other plans and programmes

This section focuses on international, national, regional and local plans, policies and programmes that have the potential for cumulative or in-combination effects with the County Development Plan. The assessment is contained in **Appendix C Tables 8.1 to 8.4**. In addition, an assessment of the in-combination and cumulative effects of Volumes 5, 6 and 7 are undertaken below. Further details in relation to mitigation measures associated with this assessment of the incorporated volumes can be found in **Chapter 9**.

Table 8.2 Assessment of County Development Plan in combination with Volumes 5, 6 &amp; 7

| Policy, plan or programme  | Summary of objectives  | Possible impacts from policy plan or programme?  | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029  |
|--|--|--|---|
| <p><b>Wind Energy Strategy, Volume 6 – Clare County Development Plan 2023-2029</b></p> | <p>As part of this County Development Plan 2023- 2029, Clare County Council has produced a Wind Energy Strategy for the County. The Wind Energy Strategy sets out a plan led approach to wind energy development in the County in terms of identifying strategic areas for wind energy development of local, county, regional and national importance and to plan for technological advances in wind farms that may occur in the future.</p> | <p>Yes, potential impacts may arise due to the proposed extension to the Lower River Shannon SPA (Site Code 004077) which was not considered at the time of preparation of the strategy as it was not notified at that point. However, in accordance with the requirements of the Department of Environment, Community and Local Government as set out in Circular PL20-13, the Clare Wind Energy Strategy 2011-2017 has not been reviewed as part of the preparation of Plan. Circular PL20-13, dated 20th December 2013, states that in the cyclical review of a Development Plan it is advised that, until the national policy review processes have concluded in relation to the Wind Energy Development Guidelines and the Renewable Energy Export Policy and Development Framework, local authorities should defer amending their existing Development</p> | <p>Yes, plans and projects of relevance include the EirGrids Shaping our Electricity Future, Regional Spatial and Economic Strategy for the Southern Region, the Clare CDP and the Renewable Energy Strategy. Existing projects and infrastructure (constructed and permitted) should also be considered.</p> |

| Policy, plan or programme | Summary of objectives | Possible impacts from policy plan or programme?   | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029 |
|---------------------------|-----------------------|---|--|
|                           |                       | <p>Plan policies and should instead operate their existing Development Plan policies and objectives until the completion of these processes and further advice is issued.</p> <p>Therefore, this issue has not been resolved.</p> <p>In line with the advice of the Department, Clare County Council proposed to include the current WES in the Clare County Development Plan 2023 – 2029. There are no changes to the contents of the strategy and therefore it will not undergo reassessment.</p> <p>Repowering is also a concern with respect to Wind Farms which due to the outdated nature of the current WES has not been considered. It is however felt that due to the relatively recent construction of the permitted wind farms across the county repowering will not be a particular concern in the short term. The existing Wind Energy Strategy for County Clare, that was published with the Clare County Development Plan 2017-2023, forms the</p> |  |



| Policy, plan or programme   | Summary objectives of   | Possible impacts from policy plan or programme?   | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029                       |
|---|---|---|--|
|   |   | <p>policy basis for onshore wind development in the County.</p> <p>The planning authority is committed to reviewing the WES Vol. 5 on foot of completion of ongoing revisions to the National Wind Energy Guidelines. When reviewing the Wind Energy Strategy, Clare County Council will take account of all relevant factors including:</p> <ul style="list-style-type: none"> <li>- Landscape capacity and visual impacts, including cumulative impacts,</li> <li>- Potential of repowering for existing wind farms, including relevant environmental considerations.</li> <li>- Technological advances in wind and other forms of renewable electricity generation.</li> </ul> |  |
| <p><b>Renewable Energy Strategy, Volume 5 - Clare County Development Plan 2023-2029</b></p> | <p>As part of this County Development Plan 2023- 2029, Clare County Council has produced a Renewable Energy Strategy for the County. The Renewable Energy</p> | <p>Yes, potential impacts may arise due to energy-related developments which could affect European sites.</p>   | <p>Yes, both this Strategy and the Clare CDP which includes the WES could lead to development which could have in-combination effects on the European sites.</p> |

| Policy, plan or programme  | Summary of objectives   | Possible impacts from policy plan or programme?   | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029   |
|--|---|---|--|
|  | <p>Strategy sets out a plan led approach to renewable energy development in the County in terms of identifying strategic areas for renewable energy development of local, county, regional and national importance and to plan for technological advances in renewable energy that may occur in the future. The Renewable Energy Strategy provides the baseline necessary for County Clare to maximise its marine renewable development potential and aims to ensure that the opportunities in marine/ocean energy relating to enterprise, economic development, energy security and potential future electricity export are fully exploited.</p> |   | <p>CDP Objectives 2.1 will ensure the proper implementation of the RES throughout the lifetime of the plan and that all proposals are considered and implemented having full regard to the requirements of the Habitats Directive.</p> |
| <p><b>Strategic Integrated Framework Plan for the Shannon Estuary Volume 9 – Clare County Development Plan 2023-2029</b></p> | <p>The SIFP was incorporated into the County Development 2011-2017 by way of a Variation and now forms Volume 9 of the current County Development Plan 2023 – 2029. The</p>   | <p>Given the significant level of Environmental assessment undertaken as part of the SIFP process which included an extensive alternatives assessment coupled with the inclusion of</p> | <p>Yes, both this Plan and the Clare CDP could lead to development which could have in-combination effects on the European sites.</p>  |

| Policy, plan or programme | Summary of objectives  | Possible impacts from policy plan or programme?   | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029 |
|---------------------------|--|---|--|
|                           | <p>Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary is an inter-jurisdictional land and marine based framework plan to guide the future development and management of the Shannon Estuary. The CDP 2023-2029 zones lands at two locations for marine-related industry.</p> | <p>extension mitigation measures both within the SIFP and through the Variation process and in addition through the current process of producing a new CDP it is felt that no significant environmental effects will arise from the implementation of the SIFP on its own. Clare County Council are also committed to the implementation of the SIFP as per objective 12.1 of the 2023 – 2029 CDP which aims to support and implement the inter-jurisdictional Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary in conjunction with the other relevant local authorities and agencies. In supporting this implementation, the use of SEA and HDA is inherent in the decision making at project level through the inclusion of SIFP Objective SEA 1.1 which identifies the need for a holistic approach to the use of SEA and AA as optimisation tools in safeguarding the critical environmental resources, resolving potential conflicts and promoting evidenced</p> |  |

| Policy, plan or programme | Summary of objectives | Possible impacts from policy plan or programme? | Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2023-2029 |
|---------------------------|-----------------------|---|--|
|                           |                       | based sustainable decision making.              |  |

**8.6.5 Other elements of the Plan**

**Clusters**

These are the smallest type of settlement in the hierarchy and their character reflects traditional building patterns with a loose collection of rural dwellings clustered around one or more focal points. Focal points may include existing rural houses around a crossroad or a community or social facility such as a shop, school, church or post office. The strategy for these settlements is to facilitate a small number of additional dwellings and/or small enterprises to consolidate the existing pattern of development around the focal points and utilise existing services in the area. To meet the needs of those wishing to settle in rural areas, the provisions of Objective CDP 4.14 (i.e., Social or Economic Housing Need requirement) will not apply to applicants for single houses within the designated cluster boundaries.

There are 92 clusters identified across the four municipal districts. Objective CDP 4.9 Clusters seeks to maintain the existing character of the clusters throughout the county from future additions and to only allow for very small-scale growth. This reflects positively on the Strategic Environmental Objectives as assessed through Appendix A.

## Chapter Nine - Mitigation

### 9.1 Introduction

Section (g) of Schedule 2(B) of the SEA Regulations (Annex 1(g) of the SEA Directive) requires the Environmental Report to describe the measures envisaged to prevent, reduce and/or offset as fully as possible any significant adverse effects on the environment from implementation of the Clare County Development Plan 2023-2029. Mitigation involves ameliorating significant negative effects via prevention and/or by reducing or off setting such effects.

In the preparation of the Clare County Development Plan 2023-2029, the SEA and AA processes ran in parallel, and the iterative nature of the SEA process has informed and influenced the formulation of the Plan objectives and land-use zonings. A detailed assessment of both the plan objectives and land-use zonings is undertaken in **Chapter 8** of this report. Where mitigation measures were still considered necessary, this resulted in either amendment or addition to wording, inclusion of additional objectives or additions/amendments/removal in the explanatory sub-text of the Plan. The recommended mitigation measures for the plan objectives are set out in **Table 9.1** and column two of the table indicates how the measures were incorporated into the Plan.

The recommendations for the site-specific land-use zonings are incorporated under **Appendix B** of this report. These fed into the process of identifying and zoning land areas for potential appropriate land-uses in the Plan and have fed into the supporting technical guidance as set out in Volume 2 of the Plan.

Overarching recommendations are incorporated throughout the report and are clearly set out at the end of each chapter of the SEA ER and in the final chapter (11) of this report. In addition, within each settlement contained in Volume 2 the references to the mitigation measures identified in this Environmental Report are also outlined.

### 9.2 Mitigation Measures

It is recommended that all legislation, policies, and guidelines outlined in both the Clare County Development Plan 2023-2029 and this Environmental Report are adhered to. In addition, future legislation, policies, and guidelines should also be fully integrated into the Plan and Environmental Report. In addition, many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated Natura Impact Report. Proposals for development which are deemed contrary to the environmental objectives and policies contained within the Plan will not normally be permitted, and if permitted, should contain development specific mitigation measures which have been proven beyond scientific doubt, to remove significant negative effects.

In this section the mitigation measures are discussed under each environmental parameter heading. Subsequently, specific mitigation measures relating to Volumes 5, 6 & 9 together with those arising from Variation No. 3 of the 2011 – 2017 CDP pertaining to the Limerick Northern Distributor Route are also outlined within this chapter.

### 9.2.1 Biodiversity, Flora and Fauna

No projects (either individually or in combination with other plans or projects) giving rise to significant direct, indirect, secondary impacts, residual, cumulative or in-combination effects on European sites due to their size/scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Clare County Development Plan 2023-2029.

Where relevant, projects, arising from this Clare County Development Plan 2023-2029 should be screened by the applicant for the need to undertake appropriate assessment in accordance with Article 6 (3) of the Habitats Directive.

#### **Mitigatory objective – Proposed for inclusion in the CDP within Chapter 15 associated with CDP Objective 15.17**

##### Freshwater Pearl Mussel

A key site-specific conservation objective for the Cloon Freshwater pearl mussel population published in 2012 is the restoration of appropriate hydrology. Applications within this catchment since the publication of the last County Development Plan have included those for new housing with septic tanks, forest roads, and indoor slatted sheds for cattle, which are associated with land drainage and slurry spreading.

In recent years the impacts of low flows have reached crisis level, with the in-combination effects of uneven precipitation levels and ongoing catchment drainage this, coupled with future impacts of climate change is something which needs to be addressed in the catchment. The site-specific conservation objectives need to be strictly adhered to when assessing planning applications within this catchment with the associated appropriate assessment taking the restoration of hydrology into consideration. The following is therefore proposed for inclusion;

**It is an objective of the development plan:**

##### **CDP Objective 15.17**

(b) To have regard to the Cloon *Freshwater Pearl Mussel Sub-Basin Management Plan* and the site-specific conservation objectives for the restoration of this population.

(c) As well as improving water quality, water quantity (including low flows) is a key requirement. Therefore, any direct or indirect activity that could negatively affect the condition of the SAC, e.g. land drainage or other reclamation or indoor animal housing, both of which could lead to increased spreading of slurry and reduced hydrological value need to be carefully consideration at a development management level.

##### Wild Atlantic Way

##### **CDP Objective 9.6**

h) To implement the *Visitor Management Guidelines for the Wild Atlantic Way in relation to all activities associated with it.*



These guidelines should be considered and applied having consideration for the “*Site Maintenance Guidelines (remedial works guidelines)*” which forms part of the Wild Atlantic Way Operational Plan as well as “*Wild Atlantic Way Signature Discovery Points- Visitor Management and Design Considerations*”

### 9.2.2 Population, Human Health and Quality of Life

Criteria for one-off housing in the countryside should consider all related policies and environmental heritage issues outlined in the Clare County Development Plan 2023-2029.

### 9.2.3 Soil and Geology

The Council will facilitate harnessing the potential of the area’s natural resources while having regard for legislation and best practice and ensuring that the environment and rural and residential amenities are appropriately protected.

### **Mitigatory objective – Proposed for inclusion in the CDP within Chapter 15**

#### CDP Objective 15.11 Brownfield Site Regeneration and Contaminated Land

It is an objective of Clare County Council:

a) To ensure that, prior to the redevelopment of a site previously known to include an operation with the potential for high environmental impact such as petrol stations, gasworks, landfills or coal yards **together with operational or transformational sites arising from the County Development Plan** due diligence is carried out on the site to:

- Consider the ecological aspects of soil and groundwater contamination;
- Prepare a site risk assessment and where deemed necessary a waste plan and a site aftercare and remedial action plan; and

b) Ensure that contaminated soil is disposed of in accordance with the Waste Management Regulations (S.I.821 of 2007)

## Soils – new objective

### **It is an objective of County Development Plan:**

To have regard to “Soil sealing” (the covering of the ground by an impermeable material) in particular within the design and development of urban areas by adopting alternatives which decrease the risk of flooding and loss of biodiversity. This should be applied to all new developments across the county and in particular within urban areas and rural settlements where incremental losses over time can aserbate the risks of flooding.

### **9.2.4 Water**

The provision of good quality water supply and effective wastewater disposal infrastructure are critical requirements for the future economic development, quality of life and sustainable growth of the County in accordance with the NPF and RSES. All future development should be cognisant as to the level of investment that will be required in the provision of water services – particularly in environmentally sensitive areas - to ensure that the provision of water services does not negatively impact on habitat and water quality, species diversity or other environmental considerations.

#### **Mitigatory objective – Proposed for inclusion in the CDP within Chapter 11**

- To work with Irish Water to facilitate the provision of improved treatment capacity in small agglomerations through the provision of reedbed or polishing filters, paid for by the developer, designed and built by Irish Water, as a sustainable development solution in appropriate locations.

#### **9.2.4.1 Flooding risk mitigation and management**

Flood Zone A = Highest probability of flooding (Flood Zone A),

Flood Zone B = Moderate risk of flooding (Flood Zone B)

Flood Zone C = Low Risk of Flooding (Flood Zone C)

Addressing flood risk in the design of new development should consider the following:

- The most vulnerable land uses should be in areas of lower flood risk.
- Less vulnerable land uses (e.g., parks, gardens and open spaces for natural habitats, etc.) should be located in areas of higher flood risk;
- There should be a degree of flexibility in the location of land uses to reflect existing or future sustainable urban structure; and
- Less vulnerable uses should be provided at ground floor level in areas of greater flood risk where a sustainable mix of uses is sought.

Site layout, landscape planning and drainage of new development must be closely integrated to play an effective role in flood-reduction. As such, proposals should clearly indicate:

- The use of Sustainable Drainage Systems (SuDS) to manage surface water run-off.
- Water conveyancing routes free of barriers such as walls or buildings.
- The signing of floodplain areas to indicate the shared use of the land and to identify safe access routes.

To ensure that adequate measures are put in place to deal with residual risks, proposals should demonstrate the use of flood-resistant construction measures that are aimed at preventing water from entering a building and that mitigate the damage floodwater causes to buildings. Alternatively, designs for flood resilient construction may be adopted where it can be demonstrated that entry of floodwater into buildings is preferable to limit damage caused by floodwater and allow relatively quick recovery. Such measures include the design and specification of internal building services and finishes. Further detail on flood resilience and flood resistance are included in the Technical Appendices of the Planning Guidelines, *The Planning System and Flood Risk Management – Guidelines for Planning Authorities* (DoEHLG, 09). To implement the recommendations and provisions of the DEHLG's Guidelines for planning authorities entitled *The Planning System and Flood Risk Management – Guidelines for Planning Authorities* (DoEHLG, 09).

A sequential approach to flood risk management based on avoidance, reduction and then mitigation of flood risk as the overall framework for assessing the location of new development shall be adopted.

Development in areas at risk of flooding, particularly floodplains, shall be avoided by not permitting development in flood risk areas unless: it is fully justified that there are wider sustainability grounds for appropriate development; unless the flood risk can be managed to an acceptable level without increasing flood risk elsewhere; and, where possible, it reduces flood risk overall.

To require all significant development proposals seeking to locate in Flood Risk Areas to include detailed information on the undertaking of a Sequential Approach and Justification Test – as set out in the DoEHLG planning guidelines, *The Planning System and Flood Risk Management – Guidelines for Planning Authorities* (DoEHLG, 09) as well as proposals for the sustainable storage or attenuation of runoff/discharges.

To ensure that all proposed Greenfield residential and commercial developments use 'Sustainable Urban Drainage Systems' in accordance with best current practice.

The Council shall fulfil its responsibilities under the Flood Risk Directive 2007/60/EC and cooperate with the Office of Public Works in the further development of the Shannon Catchment-based Flood Risk Management Plan as necessary. Any relevant recommendations and outputs arising from the Flood Risk Management Plan will be incorporated into the Development Plan.

#### **9.2.4.2 Water Protection**

To implement the relevant provisions of all Water Pollution Legislation.

The relevant policies and objectives of the National River Basin Management Plan 2022-2027 and associated programme of measures for the relevant catchment management units for the plan area shall be integrated into the Plan through amendment or otherwise.

Land uses shall not give rise to the pollution of ground or surface waters during the construction or operation of developments. This shall be achieved through the adherence to best practice in the design, installation and management of systems for the interception, collection and appropriate disposal or treatment of all surface waters and effluents.

#### **9.2.4.3 Air and Climate**

Address climate change issues through the Renewable Energy policies outlined in Volume 5 of the Clare County Development Plan 2023-2029.

To implement the provisions of EU Directives and National legislation on air and noise pollution in conjunction with other agencies as appropriate.

#### **9.2.4.4 Material Assets**

##### Transportation and Energy

Transportation networks will increasingly need to adapt to cope with effects of a changing climate evidenced by an increase in incidences of flooding and high temperatures resulting in droughts, both attributable to a recognised trend of an increase in extreme weather events. Resilience to these changes needs to be integrated into future and existing networks and services in order to maintain an efficient transportation network. This could materialise in several ways, for example, by improving cooling and heating systems within vehicles; provide adequate surface water attenuation ponds to cope with increased levels of surface water as result of increased rainfall; integrate and plan provision of alternative service route options for public and private transport networks where areas are known to experience flooding.

#### **9.2.4.5 Cultural Heritage (including Archaeology and Architecture)**

Many areas within Heritage Landscapes contain significant concentrations of National Monuments. Applicants are advised that developments will be evaluated to ensure that both monuments and their settings are protected to the standards required by the relevant statutory authorities.

Secure the protection (i.e. preservation in-situ or at a minimum protection by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act 1994, their setting and associated 'Zones of Archaeological Potential'.

Seek suitably qualified archaeologists to carry out surveys and impact assessments for all planning applications for new development, redevelopment, any ground works, refurbishment, and restoration/conservation within or adjoining sites included in the 'Record of Monuments and Places', as established under National Monuments (Amendment) Act, 1994 or within their 'Zones of Archaeological Potential'. Clare County Council shall have regard to the advice and recommendations of the Prescribed Bodies in relation to undertaking, approving or authorising development.

Require archaeological surveys, test excavation and/or monitoring for development proposals in areas of archaeological importance, if the application is likely to impact upon in-situ archaeological

structures or deposits. Foreshore surveys or any survey carried out for underwater archaeological purposes requires licensing by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

Ensure that development within the vicinity of a Recorded Monument(s) or Zone(s) of Archaeological Potential do not seriously take from the setting of the feature and is sited and designed appropriately.

New developments shall not result in any significant loss in the architectural integrity, quality, or character of an area, where appropriate. Planning applications may be required to be accompanied by an assessment undertaken by an accredited conservation architect, where appropriate, detailing the impacts of the relevant development upon the special interest and character of the surrounding architectural heritage. Clare County Council shall be consulted at an early stage in this regard to determine whether there is a need for such an assessment or for specific mitigation measures.

To consider further amendments to the record of Protected Structures as appropriate regarding the National Inventory of Architectural Heritage.

#### 9.2.4.6 Landscape

Central to the Plan is the concept of good urban design and issues surrounding new areas for development such as street design including building height and street width, historic context, cycle facilities will be addressed through the implementation of DEMURS – Design Manual for Urban Roads and Streets, 2013.<sup>55</sup>

The current Plan contains policies which protect vulnerable landscapes from insensitive development. Local landscape including surface water resources and field boundaries make a significant contribution to the character and local distinctiveness of both the urban and rural landscape. These also need protection from a nature conservation perspective and the management of features of the landscape such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for migration, dispersal and genetic exchange of wild species should be encouraged and has been integrated into the assessment of land use zoning.

##### Settlement and the Western Corridor Working landscapes:

Applicants are advised that the highest standards will be applied at all stages of the evaluation of site suitability, site design and the design and management of all installations for the interception, storage and treatment of all effluents.

##### Heritage Landscapes

Plans, policies and development decisions in these areas will always need to simultaneously take account of scenic, ecological and historic considerations. Landowners and residents, on the other hand, are likely to experience significantly more scrutiny about where and how they carry out developments in these areas. It is hoped that additional resources can be focussed on proposed developments in these areas to provide both the assistance to residents and assurance to the wider community – to ensure that communities continue to be renewed while also ensuring that heritage is sustained.

Planning applications in Heritage Landscapes will generally be required to prepare landscape and visual impacts assessments to demonstrate that these objectives are being achieved.

The majority of the areas within Heritage Landscapes contain sites, species habitats and natural resources that are protected under the provisions of the Habitats Directive and/or the Birds Directive. Applicants will be expected to familiarise themselves with the requirements of the Directive and should be aware of the likely need to carry out a Habitats Directive Assessment in accordance with the requirements of the Habitats Directive in *tandem with the preparation of designs*.

The majority of the areas within Heritage Landscapes contain ground and surface waters that are sensitive to the risk of pollution. Applicants are advised that the highest standards will be applied at all stages of the evaluation of site suitability, site design and the design and management of all installations for the interception, storage and treatment of all effluents.

It is recognised that within Heritage Landscapes these requirements will place yet another burden on applicants who will also need to demonstrate compliance with the onerous requirements of the Habitats Directive and the Water Framework Directive. For this reason, it will be Council policy to

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<sup>55</sup> <http://www.environ.ie/en/Publications/DevelopmentandHousing/Planning/FileDownload,32669,en.pdf>



investigate the feasibility of offering pre-application technical assistance to applicants on appropriate sites within these areas to minimize any disadvantages that might otherwise occur.

#### Shannon Estuary Working Landscape

A Landscape Character Assessment for Clare identified the Fergus Estuary as ‘high sensitivity’. Applicants will be expected to familiarise themselves with these requirements and should be aware of the likely need to carry out a Habitats Directive Assessment in accordance with the requirements of the Habitats Directive in *tandem with the preparation of designs*. Applicants are advised that the highest standards will be applied at all stages of the evaluation of site suitability, site design and the design and management of all installations for the interception, storage and treatment of all effluents.

#### Fergus Estuary

A Landscape Character Assessment for Clare identified the Fergus Estuary as ‘high sensitivity’. The Landscape Character Assessment for Clare identified modern unsympathetic development as being a threat to the landscape quality in the Fergus Estuary. Careful consideration should be given to new developments along the estuary shoreline due to exposed nature and probability of development being highly visible.

#### Scenic Routes

In such area, the Council will aim to protect sensitive areas from injurious development, while providing for development and change that will benefit the rural community. There is a need to protect and conserve views and prospects adjoining public roads throughout the County where these views are of high amenity value. In conserving views, it is not proposed that this should give rise to the prohibition of development along these routes but development, where permitted, should not seriously hinder or obstruct these views and should be designed and located to minimise their impact.

Planning Applications that have the potential to significantly adversely impact upon valuable and sensitive landscapes and protected views shall required to be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape. The Council shall be consulted at an early stage in this regard in order to determine whether there is a need for such an assessment or for specific mitigation measures.

### **9.3 Mitigation Measures associated with Volume 9 - SIFP**

The SIFP is incorporated into *Chapter 12 - The Shannon Estuary* of the County Development Plan written statement and are also included within this chapter of the SEA ER to ensure any future development arising from the identification of the Strategic Development Locations (SDLs) at Cahiracon and Moneypoint are mitigated.

**Table 9.1** outlines the over-arching mitigation measures in accordance with the Strategic Environmental Objectives identified through the SIFP process and which should be strictly adhered to prior to and during any development associated with either a Strategic development Location or an Area of Opportunity. The mitigation measures are listed under each of the SEA topics. The adherence to and application of these measures which is linked to the specific SIFP objectives contained in Chapter 11 of the written statement will ensure no residual significant effects.

**Table 9.1 Over-arching mitigation measures arising from the SIFP SEA**

| Number                                | Mitigation Measure  |
|---------------------------------------|---|
| <b>Biodiversity Flora and Fauna</b>   |   |
| BFF MM 1                              | As per objective SIFP ENV 1.6 the HDA and mitigation will ensure that proposed developments will not have an impact and take full account of the habitats and species, water quality, ecology, risk of disturbance and flood risk areas as per the Shannon CFRAMS. Provide for sufficient riparian buffer zones along the Natura 2000 site to maintain the integrity of the site.   |
| BFF MM 2                              | At a project level it is not sufficient to defer the production of construction method statements these should be completed at the project design stage and subject to Habitats Directive Assessment.   |
| BFF MM 3                              | Requirements for consents and the design of project level mitigation for Strategic Development Locations should be covered in the overall assessment of the site.   |
| BFF MM 4                              | While Strategic Development Locations have been put forward should issues arise under Article 6(3) of the Habitats Directive at a project level, they may require assessment. Should this assessment produce a finding of potential adverse effects on the integrity of a Natura 2000 site an alternative solution will be required.  |
| BFF MM 5                              | In selecting the alternative solution, it will be necessary to comply fully with Article 6(3) (and, if warranted, Article 6(4), including compensatory measures) of the Habitats Directive.   |
| BFF MM 6                              | Pre-construction surveys should be conducted by suitable qualified ecologists in areas of future development which require the loss of structures, trees or suitable feeding areas for nesting bird and bat species.<br>Should any important species be found during the surveys the sequential approach of avoid, reduce or mitigate should be adopted to prevent significant effects.   |
| BFF MM 7                              | A “No net loss” principle for habitats which are priority in terms of their structure and function within the Natura 2000 site should be adopted for the Lower Shannon Estuary ecosystem.   |
| BFF MM 8                              | The Steering Group structure established as part of the SIFP should continue to meet in order to facilitate dialogue between industrial operators and nature conservation bodies such as the NPWS and IFI.  |
| <b>Flood Risk Mitigation Measures</b> |   |
| BFF MM 9                              | Any proposal either within a Strategic Development Location or an alternative site at moderate or high risk of flooding this is considered acceptable in principle must demonstrate that appropriate mitigation measures can be put in place and that residual risks can be managed to acceptable levels.   |
| BFF MM 10                             | Any development within a Strategic Development Location shall have regard to the site-specific issues set out in the Shannon CFRAMS once available. <ul style="list-style-type: none"> <li>• Development across the Strategic Development Location should be allocated sequentially, and within Flood Zone C, then B, then A preferentially, but should not be so rigidly applied that development is constrained to unsustainable levels or does not deliver the mix of development type required.</li> <li>• Within a Strategic Development Location or an alternative site, a sequential approach to flood risk management based on avoidance, reduction and then mitigation of flood risk shall be adopted as the overall framework for assessing the location of new development. This relates largely to coastal flooding but in some cases may also relate to fluvial flooding.</li> </ul> |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>The use of Sustainable Drainage Systems (SuDS) as appropriate in accordance with best current practice to manage surface water runoff and water conveyancing routes free of barriers such as walls or buildings should be adopted where possible on Strategic Development Locations.</li> </ul>   |
| <b>Cultural Heritage Mitigation Measures</b>                           |  |
| CAAH MM 1  | Archaeological surveys should form part of the archaeological impact assessment for all planning applications for new development or redevelopment to inform appropriate design and mitigation of any potential impacts identified on terrestrial and/or underwater archaeological features. This assessment should utilise the archaeological and cultural heritage datasets generated by the SIFP project.   |
| <b>Human Health related Mitigation Measures - Green Infrastructure</b> |  |
| PHH MM 1   | Councils will provide for the long-term protection and improvement of the quality of the natural environment within the plan area and provide ecological and recreational linkages to enhance biodiversity, the conservation status of special habitats; air, water and soil quality as well as the amenity value of these areas.  |
| PHH MM 2   | Councils will create an integrated and coherent green infrastructure network to enhance biodiversity and quality of life, provide for sustainable water management and a green setting for the urban area.   |
| <b>Water Related Mitigation Measures</b>                               |  |
| W MM 1   | To ensure the impacts from development/change in land use practices (including flood plain development) minimises interference with aquatic habitats, it is essential that those areas adjacent to the waterways (riparian buffer zones) are managed in a manner which will reduce impacts on these habitats. These should be drawn up in consultation with NPWS and IFI.  |
| W MM 2   | Development that may result in significant negative impacts and disturbance for the internationally important number of Annex 1 bird species that use the site should be avoided.  |
| W MM 3   | Ongoing monitoring to assess the real environmental impact of any development on the water quality and fishery element of the estuarine ecosystem will be required for strategic development locations. This monitoring should be designed based on the assessment of potential effects and will depend on the scale and nature of the proposed development.   |
| W MM 4   | Development proposed in this plan will only take place where appropriate and sustainable wastewater infrastructure is in place or can be upgraded to accommodate the scale of development which will secure the objectives of the Shannon River Basin Management Plan and the protection of Natura 2000 sites with water dependant habitats or species. This must be provided and be operational in advance of the commencement of any discharges from development.<br>Wastewater infrastructure must be capable of treating discharges to ensure that water quality in the receiving river (The main River Shannon and/or its tributaries) does not fall below legally required levels. Sustainable Urban Drainage Systems (SUDS) (where appropriate) will be required for all developments discharging within or upstream from Natura 2000 sites with water dependant habitats or species. |
| W MM 5   | Councils should endeavour to carry out a review of existing licences/consents/permits operating around the Estuary.  |
| <b>Material Assets</b>   |  |
| MA MM 1  | Any development of strategic development locations will need to ensure sufficient assimilative capacity in the receiving water together with undertaking an assessment of the Assimilative Capacity of the receiving water in accepting future discharges. This should be undertaken in consultation with the Local Authority.   |

|         |  |
|---------|--|
| MA MM 2 | Any future development will need to ensure a sufficient supply of freshwater or connection to a drinking water supply with sufficient capacity. Any future abstraction will need to ensure it complies with the requirements of the Water Framework Directive and considers ecological requirements of the associated waterbody. |
|---------|--|

**Table 9.2 Over-arching mitigation measures arising from the SIFP AA**

| Number                                   | Mitigation Measure  |
|--|---|
| <b>Biodiversity Flora and Fauna</b>      |   |
| BFF MM32                                 | At a project level it is not sufficient to defer the production of construction method statements these should be completed at the project design stage and subject to Habitats Directive Assessment.   |
| BFF MM33                                 | Requirements for consents and the design of project level mitigation for Strategic Development Locations should be covered in the overall assessment of the site.   |
| BFF MM34                                 | While Strategic Development Locations have been put forward should issues arise under Article 6(3) of the Habitats Directive at a project level they may require assessment. Should this assessment produce a finding of significant effects an alternative solution will be required.  |
| BFF MM 35                                | In selecting the alternative solution, it will be necessary to comply fully with Article 6(3) (and, if warranted, Article 6(4), including compensatory measures) of the Habitats Directive.   |
| BFF MM36                                 | Pre-construction surveys should be conducted by suitable qualified ecologists in areas of future development which require the loss of structures, trees or suitable feeding areas for nesting bird and bat species.<br>Should any important species be found during the surveys the sequential approach of avoid, reduce or mitigate should be adopted to prevent significant effects.   |
| BFF MM37                                 | A “No net loss” principle for those habitats and species of conservation interest as identified through the conservation objectives should be adopted for the Lower Shannon Estuary ecosystem.  |
| BFF MM38                                 | The Steering Group structure established as part of the SIFP should continue to meet in order to facilitate dialogue between industrial operators and nature conservation bodies such as the NPWS and IFI.  |
| BFF MM39                                 | In relation to objective AV 1.5 any such development should ensure the protection of the structure and function of the Shannon Airport Coastal Lagoon as detailed and required by the conservation objectives for the Lower Shannon SAC qualifying interest feature 1150.   |
| BFF MM40                                 | At project level any proposed development within a Strategic Development Location or Area of Opportunity will need to consider impacts to the Qualifying Interest features of surrounding Natura 2000 sites within an appropriate buffer zone and undertake as a minimum a Habitats Directive Assessment Screening Statement. This should include those Natura 2000 sites which were screened out of the SIFP where appropriate; <ul style="list-style-type: none"> <li>• Barrigone</li> <li>• Kerry Head Shoal</li> <li>• Askeaton Fen Complex</li> <li>• Loop Head SPA</li> <li>• Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA</li> <li>• Kerry Head SPA</li> </ul> |
| <b>Water Related Mitigation Measures</b> |   |
| W MM 28                                  | To ensure the impacts from development/change in land use practices (including flood plain development) minimises interference with aquatic habitats, it is essential   |

|         |   |
|---------|---|
|         | that those areas adjacent to the waterways (riparian buffer zones) are managed in a manner which will reduce impacts on these habitats. These should be drawn up in consultation with NPWS and IFI.   |
| W MM 28 | Consideration of issues that may result in increased nutrient loading into the water; increased human activity, traffic, lighting, disruption of hydrological regimes and disturbance in the immediate vicinity of an important bird feeding and roosting area will be necessary. Development that may result in significant negative impacts and disturbance for the internationally important number of Annex 1 bird species that use the site will not be allowed.   |
| W MM 29 | Ongoing monitoring to assess the real environmental impact of any development on the water quality and fishery element of the estuarine ecosystem will be required for Strategic Development Locations.   |
| W MM 30 | Development proposed in this plan will only take place where appropriate and sustainable wastewater infrastructure is in place or can be up-graded to accommodate the scale of development which will secure the objectives of the Shannon River Basin Management Plan and the protection of Natura 2000 sites with water dependant habitats or species. This must be provided and be operational in advance of the commencement of any discharges from development.<br>Wastewater infrastructure must be capable of treating discharges to ensure that water quality in the receiving river (The main River Shannon and/or its tributaries) does not fall below legally required levels. Sustainable Urban Drainage Systems (SUDS) will be required for all developments discharging within or upstream from Natura 2000 sites with water dependant habitats or species. |

### 9.3.1 Site-specific mitigation measures

A detailed assessment of the site-specific elements of Variation No. 3 to incorporate the SIFP into the 2011-2017 CDP was undertaken and mitigation measures recommended. The mitigation is summarised in Table 9.3, along with details of how this mitigation is incorporated into the County Development Plan 2023 - 2029. In many instances, the mitigation is already partially or fully provided for by other objectives and policies with the Clare County Development Plan 2023-2029. Where this is the case, these objectives are listed. In other instances, the recommended mitigation is provided for by the amendments, additions and deletions to the policies and objectives of the County Development Plan being recommended in this SEA Environmental Report and, where this is the case, details are also provided in **Table 9.3**.

Table 9.3 Site-specific mitigation measures and their incorporation into the County Development Plan

| Measure Type                    | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|---------------------------------|--|---|
| <b>Inishmurry/Cahiracon SDL</b> |  |   |
| BFF                             | <p>Any development is subject to site-specific assessment of potential impacts including, for example, HDA and EIA. These assessments should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes. The design and construction of development should maintain current habitat where possible and should also consider the creation of habitat suitable to the location and prevailing species. In particular, buffer zones should be established in relation to wet pedunculate oak-ash wood present at several locations within the site. Suitable protection measures should also be incorporated in relation to Bottlenose Dolphins, birds, otter, badger and bat species. Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP15.19: Woodlands, Trees and Hedgerows make provision for the protection of trees;</li> <li>• Objective CDP15.21: Grasslands makes provision for the protection of grassland</li> <li>• Objective CDP15.5 makes provision for the protection of NHAs and pNHAs;</li> <li>• Objective CDP15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• The requirement to maintain current habitat, including the establishment of buffer zones around potentially valuable habitat, has been added to Objective CDP 12.1: Strategic Development Location – Inishmurry/Cahiracon through the inclusion of the following element; <i>ll proposed developments shall incorporate</i></li> </ul> |



| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|---|--|
|              |   | <p><i>the Mitigation Measures as contained in the SIFP – Volume 9 of this Plan - for ensuring the integrity of the Natura 2000 Network</i> to ensure that this mitigation measure is incorporated into the County Development Plan. This mitigation measure arose from the recommendation of the SEA undertaken at this site in July 2014 as part of the Variation process.</p> <ul style="list-style-type: none"> <li>• The requirement to ensure that all NHAs and pNHAs are afforded appropriate protection has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> <li>• The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |
| PHH          | Any development is subject to site-specific assessment of potential impacts including, for example, EIA. Clare County Council must ensure that adequate waste water treatment, drinking water treatment, energy supplies and waste services are in place before development takes place to ensure that development does not impact on human health.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</li> </ul>  |
| W            | Any development is subject to site-specific assessment of potential impacts including, for example, HDA and EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development’s design, construction and operation will not impact on WFD, MSFD and protected area water quality objectives. Any development is also subject to relevant licensing regimes. The objectives and | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 11.26 relates to the Water Framework Directive.</li> </ul>   |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|---|--|
|              | requirements of the MSFD and the WFD (Shannon River Basin Management Plan) should be considered when assessing proposals for development. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD and MSFD water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status.   | <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 11.12 &amp; 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul>   |
| SG           | To mitigate these potential impacts, any development is subject to site-specific assessment of potential impacts including, for example, EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development's design, construction and operation will not impact on soils or geology. Construction and operational activities associated with development should apply best practice to minimise the risk of soil wash off, erosion and contamination.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Site requires that the importance of County Geological Site is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</li> </ul>   |
| CA           | To mitigate these potential impacts, any development is subject to site-specific assessment of potential impacts including, for example, EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development's design, construction and operation will not impact on air quality and would not be an impediment to the achievement of greenhouse gas emission targets. Development is subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</li> </ul> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|--|---|
|              | <p>These include the International Maritime Organisation’s (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission’s EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea Pollution Miscellaneous Pollution Act, 2006, should also be adhered to.</p>  |   |
| CH           | <p>Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>• Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> <li>• Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>• Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.</li> </ul> |
| LS           | <p>Any development is subject to site-specific assessment including, for example, EIA. This should include all relevant survey and assessment work including Landscape Character</p>   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 14.1: Landscape Character Assessment encourages the utilisation of the Landscape Character Assessment of County Clare.</li> </ul>  |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|--|---|
|              | Assessment. Any development should be designed to minimise visual impacts.   | <ul style="list-style-type: none"> <li>• Objective CDP 14.5 Heritage Landscapes requires that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact;</li> <li>• Objective CDP 14.7 Scenic Routes provides for protection of sensitive areas from inappropriate development;</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</li> </ul> |
| RES          | Clare County Council shall consider the Clare County Renewable Energy Strategy (Volume 5 of the Clare County Development Plan 2023-2029) when considering energy needs, strategic development and planning applications at this site.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The Clare County Renewable Energy Strategy is incorporated into the development plan at Volume 5.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• None required.</li> </ul>  |
| SIFP         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of Chapter 12 of the Clare County Development Plan 2011-2017 (as varied), when considering strategic development needs and planning applications at this site. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan.</p> <ul style="list-style-type: none"> <li>• None required.</li> </ul>  |
| MA           | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul>  |

| Measure Type   | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|----------------|--|--|
|                | considering strategic development needs and planning applications at this site.  | <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required</li> </ul>   |
| F              | Clare County Council shall consider the OPW's Flood Risk Management Guidance for Planning Authorities, and the flood risk and hazard mapping and Flood Risk Management Plans from the Shannon CFRAM Studies, when considering strategic development needs and planning applications at this site. Any development should incorporate best practice for flood risk management and drainage into the design.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 2.6 Flood Risk Assessment and Management ensures that the OPW's Flood Risk Management Guidance for Planning Authorities are considered in relation to development;</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• It has been recommended that reference to the fact that all proposed developments should be in accordance with the requirements of the Floods Directive has been added to most of the objectives and policies within Chapter 12.</li> <li>• It has been recommended that a requirement that development provides no impediment to the achievement of the objectives outline in the upcoming Flood Risk management Plans be included in Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |
| Moneypoint SDL |  |  |
| BFF            | Any development is subject to site-specific assessment of potential impacts including, for example, HDA and EIA. These assessments should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes. The design and construction of development should maintain current habitat where possible and should also consider the creation of habitat suitable to the location and prevailing species. In particular, buffer zones should be established in relation to wet pedunculate oak-ash wood present at several | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP15.19: Woodlands, Trees and Hedgerows make provision for the protection of trees;</li> </ul>   |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|---|--|
|              | <p>locations within the site. Suitable protection measures should also be incorporated in relation to Bottlenose Dolphins, birds, otter, badger and bat species. Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <ul style="list-style-type: none"> <li>• Objective CDP15.21: Grasslands makes provision for the protection of grassland</li> <li>• Objective CDP15.5 makes provision for the protection of NHAs and pNHAs;</li> <li>• Objective CDP15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• The requirement to maintain current habitat, including the establishment of buffer zones around potentially valuable habitat, has been added to Objective CDP 12.1: Strategic Development Location – Inishmurry/Cahiracon through the inclusion of the following element; <i>It proposed developments shall incorporate the Mitigation Measures as contained in the SIFP – Volume 9 of this Plan - for ensuring the integrity of the Natura 2000 Network</i> to ensure that this mitigation measure is incorporated into the County Development Plan. This mitigation measure arose from the recommendation of the SEA undertaken at this site in July 2014 as part of the Variation process.</li> <li>• The requirement to ensure that all NHAs and pNHAs are afforded appropriate protection has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> <p>The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p> |



| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|---|---|
| PHH          | Any development is subject to site-specific assessment of potential impacts including, for example, EIA. Clare County Council must ensure that adequate waste water treatment, drinking water treatment, energy supplies and waste services are in place before development takes place to ensure that development does not impact on human health.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p>  |
| W            | Any development is subject to site-specific assessment of potential impacts including, for example, HDA and EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development’s design, construction and operation will not impact on WFD, MSFD and protected area water quality objectives. Any development is also subject to relevant licensing regimes. The objectives and requirements of the MSFD and the WFD (Shannon River Basin Management Plan) should be considered when assessing proposals for development. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD and MSFD water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.5: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |
| SG           | Any development is subject to site-specific assessment of potential impacts including, for example, EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development’s design,  | The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:  |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|--|---|
|              | <p>construction and operation will not impact on soils or geology. Construction and operational activities associated with development should apply best practice to minimise the risk of soil wash-off, erosion and contamination.</p>  | <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Site requires that the importance of County Geological Site is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</li> </ul>   |
| CA           | <p>Any development is subject to site-specific assessment of potential impacts including, for example, EIA. These assessments should include all relevant survey and modelling work to demonstrate that the development's design, construction and operation will not impact on air quality and would not be an impediment to the achievement of greenhouse gas emission targets. Development is subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation's (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission's EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea Pollution Miscellaneous Pollution Act, 2006, should also be adhered to.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |
| CH           | <p>Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments with regard to known or potential impacts,</p>   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p>   |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|--|--|
|              | <p>including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted.</p> | <ul style="list-style-type: none"> <li>• Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>• Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> <li>• Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>• Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p style="text-align: center;">None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.</p> |
| LS           | <p>Any development is subject to site-specific assessment including, for example, EIA. This should include all relevant survey and assessment work including Landscape Character Assessment. Any development should be designed to minimise visual impacts.</p>  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 14.1: Landscape Character Assessment encourages the utilisation of the Landscape Character Assessment of County Clare.</li> <li>• Objective CDP 14.5 Heritage Landscapes requires that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact;</li> <li>• Objective CDP 14.7 Scenic Routes provides for protection of sensitive areas from inappropriate development;</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p style="text-align: center;">None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
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| RES          | Clare County Council shall consider the Clare County Renewable Energy Strategy (Volume 5 of the Clare County Development Plan 2023-2029) when considering energy needs, strategic development, and planning applications at this site.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The Clare County Renewable Energy Strategy is incorporated into the development plan at Volume 5.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required.</li> </ul> |
| SIFP         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required.</li> </ul>      |
| MA           | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required.</li> </ul>      |
| F            | Clare County Council shall consider the OPW's Flood Risk Management Guidance for Planning Authorities, and the flood risk and hazard mapping and Flood Risk Management Plans (when available) from the Shannon CFRAM Studies, when considering strategic development needs and planning  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the</li> </ul>   |

| Measure Type                         | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|                                      | <p>applications at this site. Any development should incorporate best practice for flood risk management and drainage into the design.</p>  | <p>Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</p> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>• It has been recommended that reference to the fact that all proposed developments should be in accordance with the requirements of the Floods Directive has been added to most of the objectives and policies within Chapter 12.</li> <li>• It has been recommended that a requirement that development provides no impediment to the achievement of the objectives outline in the upcoming Flood Risk management Plans be included in Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul>   |
| Poulnasherry Bay Area of Opportunity |   |  |
| BFF                                  | <p>To mitigate these potential impacts, any development is subject to site-specific assessment of potential impacts including, for example, HDA and EIA. These assessments should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes.</p> <p>A programme for the Appropriate Assessment of all aquaculture licences and inshore fishing activities in and adjacent to Natura 2000 sites in Ireland has been undertaken. Baseline data to inform these assessments and assist with the development of conservation objectives for the sites has been collected under the supervision of the Marine Institute. Bord Iascaigh Mhara carried out aquaculture profiling and developed Fisheries Natura Plans in this regard, Any future development of the</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> </ul> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | <p>aquaculture industry at this location will need to take into consideration the findings of this work for this site.</p> <p>The Marine Institute carried out an investigation into the effects of inter-tidal Oyster culture on the spatial distribution of waterbirds which included Poulnasherry Bay. Oyster husbandry activity was observed during all three of the four counts at Poulnasherry Bay. Minor impacts, involving birds being disturbed by husbandry activity, but not being displaced, was observed on two counts at Poulnasherry Bay, This disturbance effect would need to be investigated further at a project level should future applications be required for aquaculture within this site and would need to consider the in-combination and cumulative effect with current licences within the area.</p> <p>This location contains a shore fishing spot and bait location point as per the Shannon River Basin District guide to shore angling. Any proposed developments should take cognisance of these existing activities.</p> <p>Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <ul style="list-style-type: none"> <li>Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> <li>The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |
| PHH          | Any proposal for commercial fishing and aquaculture is subject to the relevant licensing regimes. The objectives and requirements for water body status outlined in the Shannon River Basin Management Plan and the West Shannon Poulnasherry Shellfish Pollution Reduction Programme should be considered when assessing proposals for commercial fishing and aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>Chapter 11: Objective 11.2 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>Objective CDP 3.1 relates to the Water Framework Directive.</li> </ul>  |



| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial development etc.   | <ul style="list-style-type: none"> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul>  |
| W            | To mitigate these potential impacts, any proposal for commercial fishing and aquaculture activity is subject to relevant licensing regimes and site-specific assessments. The objectives and requirements of the MSFD, The WFD (Shannon River Basin Management Plan) and the Shellfish Directive (West Shannon Poulmasherry Shellfish Pollution Reduction Programme) should be considered when assessing proposals for commercial fishing or aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial activity etc. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD, MSFD and shellfish water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
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| SG           | Any development is subject to site-specific assessment of potential impacts and to relevant licensing regimes. This should include all relevant survey work and assessment work. The number and proximity of the licenced sites will need to be considered together in terms of in-combination effects.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Site requires that the importance of County Geological Site is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>None required as current licensing and assessment regimes will kick in.</li> </ul>   |
| CA           | To mitigate potential impacts, any development is subject to site-specific assessment of potential impacts. This should include all relevant survey work and assessment work. Emissions to air are subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation's (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission's EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea Pollution Miscellaneous Pollution Act, 2006, should also be adhered to. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |
| CH           | Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments/activities with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> </ul>   |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
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|              | underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted. Any activity is also subject to relevant licensing regimes. | <ul style="list-style-type: none"> <li>• Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>• Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p style="text-align: center;">None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.</p> |
| LS           | None required  | -   |
| RES          | None required  | -   |
| SIFP         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required</li> </ul>   |
| MA           | None required  | -   |
| F            | None required  | -   |

| Measure Type                    | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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| Carrigaholt Area of Opportunity |  |  |
| BFF                             | <p>Any development is subject to site-specific assessment of potential impacts, including relevant survey information such as dedicated bird counts throughout the summer and winter months to establish bird use. These should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes.</p> <p>A programme for the Appropriate Assessment of all aquaculture licences and inshore fishing activities in and adjacent to Natura 2000 sites in Ireland has been undertaken. Baseline data to inform these assessments and assist with the development of conservation objectives for the sites has been collected under the supervision of the Marine Institute. Bord Iascaigh Mhara carried out aquaculture profiling and developed Fisheries Natura Plans in this regard, Any future development of the aquaculture industry at this location will need to take into consideration the findings of this work for this site.</p> <p>This area also contains a shore mark and bait location point as per the Shannon River Basin District guide to shore angling. Any proposed developments should take cognisance of these existing activities.</p> <p>Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
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|              |   | The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.  |
| PHH          | Any proposal for commercial fishing and aquaculture is subject to the relevant licensing regimes. The objectives and requirements for water body status outlined in the Shannon River Basin Management Plan and the West Shannon Carrigaholt Shellfish Pollution Reduction Programme should be considered when assessing proposals for commercial fishing and aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as wastewater treatment plants, on-site waste water treatment plants, industrial development etc. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.2 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p> |
| W            | Any proposal for commercial fishing and aquaculture activity is subject to relevant licensing regimes and site-specific assessments. The objectives and requirements of the MSFD, The WFD (Shannon River Basin Management Plan) and the Shelfish Directive (West Shannon Carrigaholt Shellfish Pollution Reduction Programme) should be considered when assessing proposals for commercial fishing or aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.2 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> </ul>  |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial activity etc. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD, MSFD and shellfish water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status.   | <ul style="list-style-type: none"> <li>Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p>  |
| SG           | Any development is subject to site-specific assessment of potential impacts and to relevant licensing regimes. This should include all relevant survey work and assessment work. Impacts to the geological heritage site should be through avoidance through appropriate siting and operation of activities. The number and proximity of the licenced sites will need to be considered together with the in-combination effects.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Site requires that the importance of County Geological Site is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <ul style="list-style-type: none"> <li>None required as current licensing and assessment regimes will kick in.</li> </ul> |
| CA           | Any development is subject to site-specific assessment of potential impacts. This should include all relevant survey work and assessment work. Emissions to air are subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation’s (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission’s EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea |  |



| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | Pollution Miscellaneous Pollution Act, 2006, should also be adhered to.  |  |
| CH           | Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments/activities with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted. Any activity is also subject to relevant licensing regimes. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>• Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> <li>• Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>• Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.</p> |
| LS           | None required  | -  |
| RES          | None required  | -  |

| Measure Type                      | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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| SIFP                              | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required</li> </ul>  |
| MA                                | None required   | -  |
| F                                 | None required   | -  |
| Rinevella Bay Area of opportunity |   |  |
| BFF                               | <p>Any development is subject to site-specific assessment of potential impacts, including relevant survey information such as dedicated bird counts throughout the summer and winter months to establish bird use; and assessment to impacts, if any, to Atlantic Salt Marsh (a priority habitat) in the vicinity. The main areas containing this habitat are located to the east surrounding Cloonconeen point which is outside of the current licenced areas. These should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes.</p> <p>A programme for the Appropriate Assessment of all aquaculture licences and inshore fishing activities in and adjacent to Natura 2000 sites in Ireland has been undertaken. Baseline data to inform these assessments and assist with the development of conservation objectives for the sites has been collected under the supervision of the Marine Institute. Bord Iascaigh Mhara carried out aquaculture profiling and developed Fisheries</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> </ul> |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | <p>Natura Plans in this regard, Any future development of the aquaculture industry at this location will need to take into consideration the findings of this work for this site.</p> <p>Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p>   | <ul style="list-style-type: none"> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> <p>The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p>   |
| PHH          | <p>Any proposal for commercial fishing and aquaculture is subject to the relevant licensing regimes. The objectives and requirements for water body status outlined in the Shannon River Basin Management Plan and the West Shannon Rinevella Shellfish Pollution Reduction Programme should be considered when assessing proposals for commercial fishing and aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial development etc.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|--|---|
|              |  | The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.  |
| W            | To mitigate these potential impacts, any proposal for commercial fishing and aquaculture activity is subject to relevant licensing regimes and site-specific assessments. The objectives and requirements of the MSFD, The WFD (Shannon River Basin Management Plan) and the Shellfish Directive (West Shannon Rinevella Shellfish Pollution Reduction Programme) should be considered when assessing proposals for commercial fishing or aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial activity etc. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD, MSFD and shellfish water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |
| SG           | Any development is subject to site-specific assessment of potential impacts and to relevant licensing regimes. This should include all relevant survey work and assessment work. The number and proximity of the licenced sites will need to be considered together in terms of in-combination effects.  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 15.6 County Geological Sites requires that the importance of County Geological Sites is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required as current licensing and assessment regimes will kick in.</li> </ul>   |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|---|--|
| CA           | <p>Any development is subject to site-specific assessment of potential impacts. This should include all relevant survey work and assessment work. Emissions to air are subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation’s (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission’s EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea Pollution Miscellaneous Pollution Act, 2006, should also be adhered to.</p>  | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p>  |
| CH           | <p>Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments/activities with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> <li>Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> |

| Measure Type                 | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
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|                              | Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted. Any activity is also subject to relevant licensing regimes.   | None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.  |
| LS                           | None required   | -   |
| RES                          | None required   | -   |
| SIFP                         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site.                                | The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation: <ul style="list-style-type: none"> <li>The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> Additional action taken to incorporate the recommended mitigation into the County Development Plan: <ul style="list-style-type: none"> <li>None required</li> </ul>   |
| MA                           | None required   | -   |
| F                            | None required   | -   |
| Killimer Area of opportunity |   |   |
| BFF                          | Any development is subject to site-specific assessment of potential impacts, including relevant survey information such as dedicated bird counts throughout the summer and winter months to establish bird use. Any development is also subject to relevant licensing regimes.<br><br>A programme for the Appropriate Assessment of all aquaculture licences and inshore fishing activities in and adjacent to Natura | The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation: <ul style="list-style-type: none"> <li>Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> </ul> |



| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|--|--|
|              | <p>2000 sites in Ireland has been undertaken. Baseline data to inform these assessments and assist with the development of conservation objectives for the sites has been collected under the supervision of the Marine Institute. Bord Iascaigh Mhara carried out aquaculture profiling and developed Fisheries Natura Plans in this regard, Any future development of the aquaculture industry at this location will need to take into consideration the findings of this workfor this site.</p> <p>Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <ul style="list-style-type: none"> <li>• Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 7 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> <p>The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p> |
| PHH          | <p>Any proposal for commercial fishing and aquaculture is subject to the relevant licensing regimes. The objectives and requirements for water body status outlined in the Shannon River Basin Management Plan should be considered when assessing proposals for commercial fishing and aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste</p>   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> </ul>   |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | water treatment plants, on-site waste water treatment plants, industrial development etc.  | <ul style="list-style-type: none"> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p>   |
| W            | Any proposal for commercial fishing and aquaculture activity is subject to relevant licensing regimes and site-specific assessments. The objectives and requirements of the MSFD, The WFD (Shannon River Basin Management Plan) and the Shellfish Directive should be considered when assessing proposals for commercial fishing or aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial activity etc. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD, MSFD and shellfish water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p> |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|---|---|
| SG           | Any development is subject to site-specific assessment of potential impacts and to relevant licensing regimes. This should include all relevant survey work and assessment work. The number and proximity of the licenced sites will need to be considered together in terms of in-combination effects.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Sites requires that the importance of County Geological Sites is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>None required as current licensing and assessment regimes will kick in.</li> </ul>   |
| CA           | Any development is subject to site-specific assessment of potential impacts. This should include all relevant survey work and assessment work. Emissions to air are subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation’s (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission’s EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea Pollution Miscellaneous Pollution Act, 2006, should also be adhered to. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |
| CH           | Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments/activities with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 14.1: Landscape Character Assessment encourages the utilisation of the Landscape Character Assessment of County Clare.</li> </ul>  |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted. Any activity is also subject to relevant licensing regimes. | <ul style="list-style-type: none"> <li>• Objective CDP 14.5 Heritage Landscapes requires that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact;</li> <li>• Objective CDP 14.7 Scenic Routes provides for protection of sensitive areas from inappropriate development;</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |
| LS           | None required  | -  |
| RES          | None required  | -  |
| SIFP         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary will be incorporated into the development plan at Volume 9.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• None required</li> </ul>  |
| MA           | None required  | -  |
| F            | None required  | -  |

| Measure Type                        | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|-------------------------------------|---|--|
| Clonderalaw Bay Area of Opportunity |   |  |
| BFF                                 | <p>Any development is subject to site-specific assessment of potential impacts, including relevant survey information such as dedicated bird counts throughout the summer and winter months to establish bird use. These should include all relevant ecological survey work. Any development is also subject to relevant licensing regimes.</p> <p>A programme for the Appropriate Assessment of all aquaculture licences and inshore fishing activities in and adjacent to Natura 2000 sites in Ireland has been undertaken. Baseline data to inform these assessments and assist with the development of conservation objectives for the sites has been collected under the supervision of the Marine Institute. Bord Iascaigh Mhara carried out aquaculture profiling and developed Fisheries Natura Plans in this regard, Any future development of the aquaculture industry at this location will need to take into consideration the findings of this work for this site.</p> <p>This area also contains a shore fishing spot as per the Shannon River Basin District guide to shore angling. Any proposed developments within the strategic location should take cognisance of this.</p> <p>Operational and maintenance activities should be designed so as to minimise impact on biodiversity, flora and fauna.</p> | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;</li> <li>• Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;</li> <li>• Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;</li> <li>• Objective CDP 15.8 &amp; 15.9 makes provision to protect and enhance biodiversity;</li> <li>• Objective CDP 15.12 &amp; 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;</li> <li>• Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;</li> <li>• Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>• The requirement to protect and enhance biodiversity has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</li> </ul> |

| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              |   | The requirement to support measures to control and manage invasive alien species has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.   |
| PHH          | Any proposal for commercial fishing and aquaculture is subject to the relevant licensing regimes. The objectives and requirements for water body status outlined in the Shannon River Basin Management Plan should be considered when assessing proposals for commercial fishing and aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water treatment plants, industrial development etc. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> <li>• Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p> |
| W            | Any proposal for commercial fishing and aquaculture activity is subject to relevant licensing regimes and site-specific assessments. The objectives and requirements of the MSFD and the WFD (Shannon River Basin Management Plan) should be considered when assessing proposals for commercial fishing or aquaculture licences in these areas. Clare County Council shall consider the potential effects on this area when assessing proposals for potentially polluting point and diffuse sources such as waste water treatment plants, on-site waste water                         | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Chapter 11: Physical Infrastructure includes a range of objectives aimed at ensuring adequate water and wastewater services.</li> <li>• Chapter 11: Objective 11.12 aims to ensure that developments do not lead to pollution of air and water specifically relating to the SIFP.</li> <li>• Objective CDP 3.1 relates to the Water Framework Directive.</li> <li>• Objective CDP 13.9: Commercial Fishing and Aquaculture requires the support and protection of identified shellfish areas as an economic and employment sector</li> </ul>  |



| Measure Type | Recommended mitigation  | Incorporation of mitigation into the Clare County Development Plan 2023-2029  |
|--------------|---|---|
|              | treatment plants, industrial activity etc. The design and construction of development should aim to protect water quality and provide no impediment to the achievement of WFD, MSFD and shellfish water quality objectives. Operational activities should be designed and carried out so as to not impact on water body status.   | <ul style="list-style-type: none"> <li>Objective CDP 13.8: Shellfish Waters Directive supports the proper and successful implementation of the Shellfish Waters Directive along the County Clare coastline.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <p>The requirements to ensure that development provides no impediment to the achievement of WFD and MSFD objectives has been added to Objective CDP 12.15: Building on the Shannon Estuary as an Environmental Asset.</p>   |
| SG           | Any development is subject to site-specific assessment of potential impacts and to relevant licensing regimes. This should include all relevant survey work and assessment work. The number and proximity of the licenced sites will need to be considered together in terms of in-combination effects.   | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective CDP 15.6 County Geological Sites requires that the importance of County Geological Sites is recognised, and the character and integrity of these sites is protected.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan:</p> <ul style="list-style-type: none"> <li>None required as current licensing and assessment regimes will kick in.</li> </ul>   |
| CA           | Any development is subject to site-specific assessment of potential impacts. This should include all relevant survey work and assessment work. Emissions to air are subject to licensing regimes which should reflect the requirements and targets of the Air Quality Framework Directive and the National Climate Change Strategy. The requirements of the International regulations introduced to reduce emissions (including air emissions) should be considered. These include the International Maritime Organisation’s (IMO) International Convention on the Prevention of Pollution from Ships (MARPOL) and the European Commission’s EU Shipping Strategy. The Annex VI regulations and the amendments contained in the Sea | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>Objective 2.1 in relation to Climate Action supports the implementation of the National Climate Action Plan 2021 and the National Climate Change Adaptation Framework (and any subsequent versions thereof), and to work with the Regional Climate Action Offices to enable County Clare to transition to a low carbon and climate resilient County.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and will ensure that any impacts are identified and mitigated for.</p> |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
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|              | Pollution Miscellaneous Pollution Act, 2006, should also be adhered to.  |  |
| CH           | Any development is subject to site-specific assessment including, for example, EIA. Any assessment shall include detailed impact statements that look at proposed developments/activities with regard to known or potential impacts, including visual impacts, on recorded or previously unrecorded/potential archaeology, both terrestrial and underwater. Available data pertaining to the cultural heritage should be consulted and reviewed, including the Shipwreck Inventory of Ireland, Ports and Harbours Archive, Topographical Files in the National Museum, cartographic sources, historical sources, results of previous surveys carried out in the area (geophysical/EIS/marine, etc.) and results of archaeological research and excavations. The Register of Monuments and Places (RMP), Topographical Files of the National Museum and the UNESCO Convention on the Protection of the Underwater Cultural Heritage (including the Annex) should be consulted. DAHG guidelines on assessing the potential for impact to underwater archaeology should be consulted. Any activity is also subject to relevant licensing regimes. | <p>The following objectives in the Clare County Development Plan 2023-2029 already provide for aspects of the recommended mitigation:</p> <ul style="list-style-type: none"> <li>• Objective CDP 16.1: Protected Structures requires the protection of structures in the Record of protected structures;</li> <li>• Objective CDP 16.8: Sites, Features and Objects of Archaeological Interest requires the protection of such features;</li> <li>• Objective 16.9: Newly Discovered Archaeological Sites requires the protection and preservation of archaeological sites discovered since the publication of the RMP;</li> <li>• Objective 16.13: Underwater Archaeology requires the protection and preservation of underwater archaeological sites.</li> </ul> <p>Additional action taken to incorporate the recommended mitigation into the County Development Plan</p> <p>None required, the EIA process will kick-in as proposals for development arise and appropriate assessment will ensure that any impacts are identified and mitigated for.</p> |
| LS           | None required  | -  |
| RES          | None required  | -  |

| Measure Type | Recommended mitigation   | Incorporation of mitigation into the Clare County Development Plan 2023-2029   |
|--------------|--|--|
| SIFP         | Clare County Council shall consider the objectives of the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary (which will be adopted as Volume 9 of the Clare County Development Plan 2023-2029), and the objectives of chapter 12 of the Clare County Development Plan 2023-2029, when considering strategic development needs and planning applications at this site. | <ul style="list-style-type: none"> <li>• The SIFP for the Shannon Estuary has been incorporated into the development plan at Volume 9 and through the inclusion of specific objectives in Chapter 12 The Shannon Estuary</li> </ul> Additional action taken to incorporate the recommended mitigation into the County Development Plan: <ul style="list-style-type: none"> <li>• None required.</li> </ul> |
| MA           | None required  | -  |
| F            | None required  | -  |

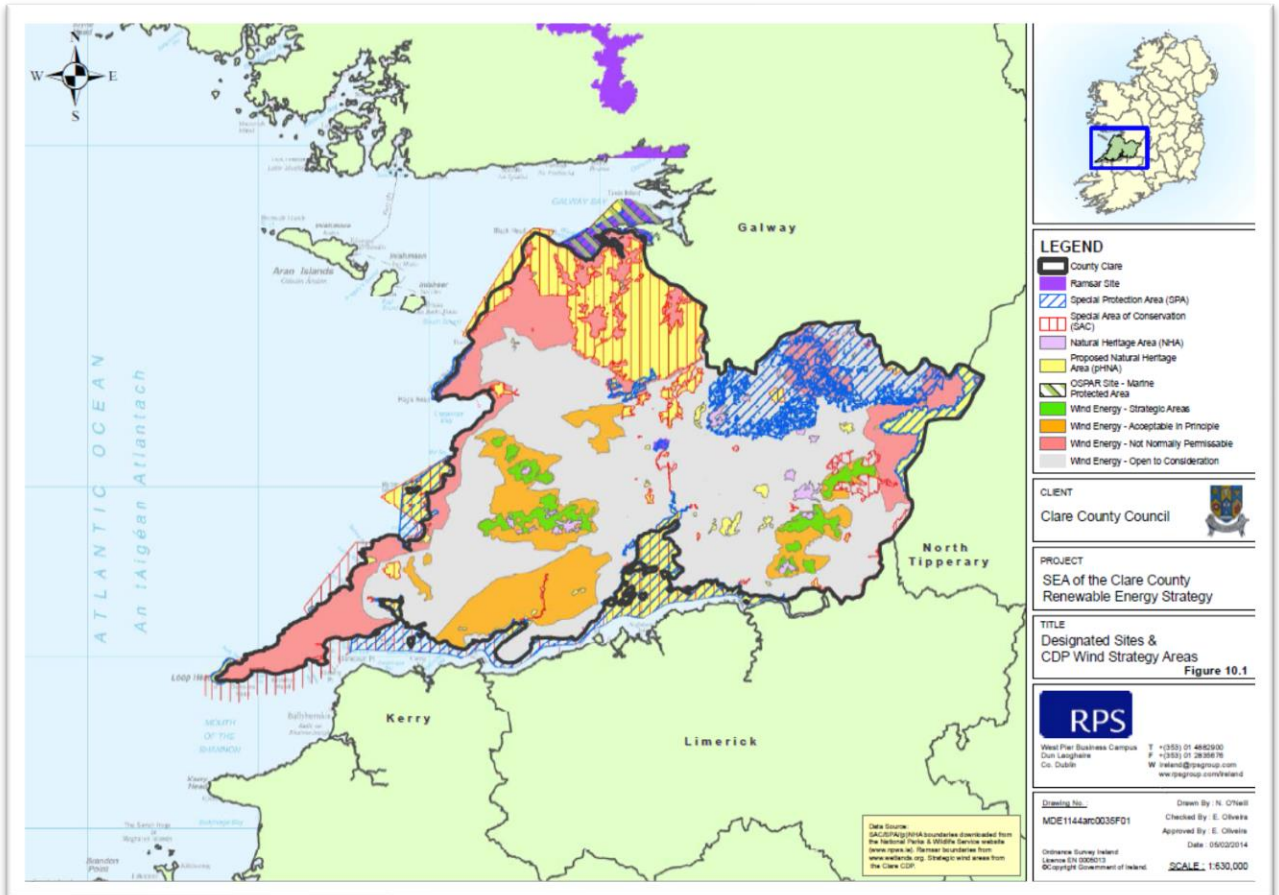
#### 9.4 Mitigation Measures associated with Volume 5 – WES

The Clare Wind Energy Strategy forms part of the Clare County Development Plan 2023-2029. In accordance with the requirements of the Department of Environment, Community and Local Government as set out in Circular PL20-13, the previous “Clare Wind Energy Strategy 2011-2017” has not been reviewed as part of the preparation of this Plan. Circular PL20-13, dated 20th December 2013, states that in the cyclical review of a Development Plan it is advised that, until the national policy review processes have concluded in relation to the Wind Energy Development Guidelines and the Renewable Energy Export Policy and Development Framework, local authorities should defer amending their existing Development Plan policies and should instead operate their existing Development Plan policies and objectives until the completion of these processes and further advice is issued.

The Wind Energy Strategy within the Clare County Development Plan (CDP) 2023-2029 was adopted following Strategic Environmental Assessment and Habitat Directive Assessments. Within the Wind Energy Strategy four classifications were developed for Wind Farm development in County Clare, which are as follows:

- Strategic Areas - key areas which are eminently suitable for wind farm development
- Acceptable in Principle - these areas are considered suitable for wind farm development
- Open to Consideration – Wind energy applications in these areas will be evaluated on a caseby- case basis subject to certain criteria.
- Not normally permissible - These areas are not in principle considered suitable for wind farm Development

**Figure 9.1** provides an overview of the strategic windfarm development areas, and it outlines that there are some pNHAs and NHAs that fall within the Strategic Areas, Acceptable in Principle and Open for Consideration categories.



**Figure 9.1 pNHAs and NHAs in conjunction with wind classification**

(Source; SEA of the Clare Renewable Energy Strategy)

The Wildlife (Amendment) Act, 2000 provides the legal basis for the establishment of a national network of sites known as Natural Heritage Areas (NHAs). NHAs aim to conserve and protect nationally important plant and animal species and their habitats. NHAs are also designated to conserve and protect nationally important landforms, geological or geomorphological features. Planning authorities are obliged by law to ensure that these sites are protected and conserved.

The national designation for wildlife and nature conservation is the Natural Heritage Area (NHA) and designated established Natural Heritage Areas and proposed Natural Heritage Areas (pNHA) are protected under the Wildlife (Amendment) Acts, 1976-2000. These areas are considered important for the habitats present or hold species of plants and animals whose habitat need protection under national legislation. NHAs and proposed NHAs may also be regarded as stepping stones or ecological corridors in the context of Article 10 of the EU Habitats Directive. A number of NHAs fall within the categories; 'strategic areas' and/or areas 'acceptable in principle' for wind energy development.

**These NHAs include:**

- Lough Naminna Bog (site code 2367);
- Slieve Callan Bog NHA (site code 2397);
- Cragnashingaun Bogs NHA (site code 2400);
- Lough Acrow Bogs NHA (site code 2421);

Gortacullin Bog NHA (site code 2401);  
Woodcock Hill Bog NHA (site code 2402); and  
Doon Lough NHA (site code 337).

These sites have been selected for the conservation of peatland habitats and wind energy developments could pose a threat to the integrity of these NHAs. As such Clare County Council as part of the Variation process and through the preparation of the Clare County Development Plan 2023-2029 have proposed the following objectives in relation to protection and conservation of NHAs specifically relating to Wind Energy.

- *Any planning application for wind energy development within County Clare will ensure that the development proposal in the vicinity of or affecting in any way an NHA or pNHA provides sufficient information showing how its proposals will impact on the designated site (through an assessment of effects on their Features of Interest) and how any such impact will be appropriately mitigated.*
- *Any planning application for wind energy development within County Clare will ensure that all NHAs and pNHAs are afforded the appropriate level of protection by only permitting development demonstrated not to have a significant adverse effect on the conservation value of such areas or where such development is shown to have a significant adverse effect, the said development is exceptional by virtue of its regional or national significance.*

In addition to this, internal procedures in Clare County Council at the development management level provide for an added level of protection where the Strategy may be lacking, and areas identified as ‘acceptable in principle’ undergo a thorough and detailed assessment process.

County Development Plan Objective 8.12 will ensure the proper implementation of the WES throughout the lifetime of the plan and that all proposals are considered and implemented having full regard to the requirements of the Habitats Directive. There are also a number of County Development Plan objectives that ensure an overarching protection to the European Sites within County Clare.

- Objectives CDP 3.1, 15.3 and 15.4 within the Clare County Development Plan 2023-2029 require project-specific screening for appropriate assessment and if directed by the Competent Authority must furnish an NIS to the authority;
- Objective CDP 3.1 requires that all plans and programmes comply with the requirements of SEA and all plans and projects comply with the requirements of the Habitats Directive;
- Objective CDP 15.8 makes provision for the protection of non-designated sites of potential conservation value;
- Objective CDP 15.8 & 15.9 makes provision to protect and enhance biodiversity;
- Objective CDP 15.12 & 15.29 makes provision to take all necessary steps to prevent the spread of invasive species;
- Objective CDP 15.2 requires the protection of natural heritage when considering certain developments;
- Objective CDP 3.1 requires that development does not lead to excessive disturbance to wildlife in ecologically protected areas.



The SEAI, in 2021, have launched new versions of the SEAI renewable energy resource atlases which can be accessed through the following links:

- The SEAI Wind Atlas: <http://maps.seai.ie/wind/>
- The SEAI Bioenergy Resource Atlas: <https://www.seai.ie/sustainable-solutions/renewable-energy/bioenergy/>
- The SEAI Geothermal Resource Atlas: [geothermal](#)

This remodelled Wind Atlas will be utilised in any future revision or up-date to the Wind Energy Strategy. In addition, the Bioenergy and Geothermal Resource Atlases will be used to inform any future update to the Clare Renewable Energy Strategy.

## 9.5 Mitigation Measures associated with Volume 6 – RES

The Clare County Renewable Energy Strategy (RES) outlines the renewable energy resource that is deliverable in County Clare. Its vision, consistent with that of the Clare County Development Plan 2023-2029, is to position the County as the national leader in renewable energy generation, supporting energy efficiency and conservation, with an accessible modern telecommunications infrastructure, achieving balanced social and economic development and assisting Ireland’s Climate Action Plan.

The first and existing renewable energy strategy for County Clare 2014 examined all renewable energy options for the County and set an ambitious vision for Clare to be a leader in the sector, achieving and surpassing national targets. In 2021, a progress review was carried out, providing up to date information on the energy and carbon emissions in the County. This RES enables a review of progress against the original targets. Across the world, the response to climate change has focussed efforts on reducing greenhouse gas emissions in the energy sector. New targets are being set at EU and National level, with ambitious renewable energy requirements. This RES sets a path for Clare for the year 2030, and revises the original RES in relation to policy, targets and new technology options.

### Energy and Emission Performance in 2020

The headline figures from the progress review are:

- Energy Demand has grown by 5.5% from 2010 – 2020
- Carbon Emissions have reduced by 15% in the same period.
- Electricity Generation: The total electricity demand in Clare in 2020 was 722 GWh and the total renewable electricity generated in Clare was 721 GWh. (Primarily Wind and Hydroelectric Power).
- There has been less progress with renewable heat and renewable transport energy, with Clare reflecting national trends and failing to meet targets.

The Clare County Renewable Energy Strategy 2021 outlines the renewable energy resource that is deliverable in County Clare. Its vision, consistent with that of the Clare County Development Plan 2023-2029, is to position the County as the national leader in renewable energy generation which supports energy efficiency and conservation, and which achieves balanced social and economic development throughout the County and assists in achieving Ireland’s Green Energy targets as outlined in the Climate Action Plan 2021.

It indicates that a sustainable balance of renewable energy resources is planned, ensuring that there is no over reliance or over concentration on any single technology.

This Strategy outlines the potential for a range of renewable resources, including bioenergy and anaerobic digestion, micro renewables, geothermal, solar, hydro, energy storage, onshore and offshore wind, wave and tidal energy. It acknowledges the significant contribution they can make to County Clare being more energy secure, less reliant on traditional fossil fuels, enabling future energy export and meeting assigned targets. The targets above are supported by a suite of objectives which seek to give certainty to potential investors and developers of renewable energy in the County. Underlying the Renewable Energy Strategy is the need to increase energy efficiency and conservation and to promote the development of micro renewable technologies. An aim of the Renewable Energy Strategy is to raise awareness of micro technologies and their advantages, together with the benefits of being more energy efficient. This Strategy recognises the importance of not only generating and supplying energy in the County by renewable means but balancing this with more energy efficient practices. Having a strong renewable energy sector will make Clare a preferred location for investment in industry and innovation. Energy innovation can also drive employment and enterprise, enabling economic and social benefits in the County.

The Clare County Renewable Energy Strategy also recognises the importance of the excellent infrastructure in County Clare including road, electricity, gas and broadband network, airport, ports and the Shannon Estuary, both in supporting the development of renewables and enabling a competitive supply chain economy with respect to the emerging Offshore Renewable Energy sector. The targets above are supported by a suite of objectives which seek to give certainty to potential investors and developers of renewable energy in the County. Underlying the Renewable Energy Strategy is the need to increase energy efficiency and conservation and to promote the development of micro renewable technologies. An aim of the Renewable Energy Strategy is to raise awareness of micro technologies and their advantages, together with the benefits of being more energy efficient. This Strategy recognises the importance of not only generating and supplying energy in the County by renewable means but balancing this with more energy efficient practices.

In incorporating the Renewable Energy Strategy, the County Development Plan contains a number of protective objectives which will ensure no significant effects arising from the implementation of the strategy. In particular CDP Objective 6.17 which states;

*It is an objective of Clare County Council:*

*a) To contribute to the economic development and enhanced employment opportunities in the County by:*

*i) Enabling the development of a self-sustaining, secure, reliable and efficient renewable energy supply and storage for the County in line with CDP Objective 3.1;*

*ii) Facilitating the county to become a leader in the production of sustainable and renewable energy for national and international consumption through research, technology development and innovation; and*

*iii) Supporting on-land and off-shore renewable energy production by a range of appropriate technologies in line with CDP Objective 3.1.*

with objective 3.1 relating to Appropriate Assessment, Strategic Environmental Assessment & Strategic Flood Risk Assessment

In addition, the following mitigation measures have been included within the Renewable Energy strategy as supporting text underneath the relevant objectives or within the relevant chapter and should be strictly adhered to in regard to any future renewable energy development.

Table 9.5 Mitigation Measures specific to the Renewable Energy Strategy

| Reference                                  | Mitigation  |
|--|---|
| Chapter 1 - Introduction                   | See mitigation proposed under <b>Chapter 3</b> following the assessment of the Chapter 3 objective.   |
| Chapter 2 – Legislation and Policy Context | No objectives included – N/A  |
| Chapter 3 – Energy Profile of County Clare | <p><i>[Note – SEA mitigation is outlined in green, NIR mitigation in red. Where mitigation has been incorporated into the draft RES, this has been noted in highlight]</i></p> <p><b><u>General Mitigation – Proposed New Objectives to be included in Chapter 1</u></b></p> <ul style="list-style-type: none"> <li>• Any proposals for RE infrastructure shall comply with Chapter 17 Environmental Considerations &amp; Development Management Advice and the overarching policies and objectives of the Clare County Development Plan 2022-2028.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 A</u></b></li> <li>• The EPA Environmental Sensitivity Mapping (ESM) Webtool and the Appropriate Assessment GeoTool should be applied to inform decision-making in terms of infrastructural/siting considerations as well as consideration of environmental sensitivities.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 B</u></b></li> <li>• To ensure that RE development proposals support and enhance the connectivity and integrity of habitats in the RES area by incorporating natural features into the design of development proposals; and to work with infrastructure providers to co-develop infrastructural management plans to enhance biodiversity.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 C</u></b></li> </ul> <p><b><u>Proposed NIR Mitigation</u></b></p> <ul style="list-style-type: none"> <li>• To require any Renewable Energy project to be in compliance with the objectives and requirements of the Habitats Directive, specifically Article 6(3) and where necessary 6(4), Birds, Water Framework (including the implementation of the 3rd Cycle RBMP), and all other relevant EU Directives and all relevant transposing national legislation.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 D</u></b></li> <li>• To require project planning for any Renewable Energy project to be fully informed by ecological and environmental constraints at the earliest stage of project development and any necessary assessment to be undertaken, including assessments of disturbance to species and habitats, as required. Any ecological assessment shall also be required to consider ecological connectivity and potential supporting habitats to European Sites.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 E</u></b></li> <li>• To require the preparation and assessment of all planning applications for Renewable Energy projects 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 of the County Clare CDP 2021- 2028 Development Plan and SEA of the Renewable Energy Strategy.<br/><b><u>Mitigation has been incorporated into the Chapter as Objective RES 1.1 F</u></b></li> <li>• Ensure that no RE projects are permitted that give rise to significant cumulative, direct, indirect or secondary impacts on the integrity of European Sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects, (either individually or in combination with other plans, programmes, etc. or projects) (Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place).</li> </ul> |

| Reference   | Mitigation  |
|---|---|
|   | <b>Mitigation has been incorporated into the Chapter as Objective RES 1.1 G</b>   |
| Chapter 4 – Summary of Renewable Potential, Resources and Targets | <p><b>General Mitigation</b><br/>As per Chapter 3 - new objectives to be included in Chapter 1.<br/><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p>  |
| Chapter 5 – Energy Conservation and Efficiency                    | <p><b>General Mitigation</b><br/>As per Chapter 3 - new objectives to be included in Chapter 1.<br/><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed Amendments to Objectives</b></p> <ul style="list-style-type: none"> <li>• <b>RES 5.1 A:</b> To contribute towards the EU wide target of achieving at least 32.5 % improvement in energy efficiency <i>in line with national policy, proper planning and sustainable development.</i></li> <li>• <b>RES 5.1 F:</b> To encourage a high standard of sustainable energy efficiency and conservation in the existing building stock by encouraging developers, owners, and occupiers to improve the environmental performance of buildings and to promote the uptake in incentives, schemes, grants or other available funding to improve energy efficiency <i>in line with national policy, proper planning and sustainable development.</i></li> <li>• <b>RES 5.1 G(b):</b> Promoting retrofitting of existing buildings to achieve a high level of energy conservation, energy efficiency and use of renewable energy sources <i>in line with national policy, proper planning and sustainable development.</i></li> <li>• <b>RES 5.1 G(h):</b> To identify significant ‘waste’ energy sources in County Clare and to promote and facilitate the capture and conversion of such energy to a usable resource for local consumption <i>in line with national policy, proper planning and sustainable development.</i></li> </ul> |
| Chapter 6 – Onshore Wind  | No objectives included – N/A  |
| Chapter 7 – Solar   | <p><b>General Mitigation</b><br/>As per Chapter 3 - new objectives to be included in Chapter 1.<br/><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed New Objective</b><br/>It is an objective to undertake a feasibility study/strategy in relation to solar farm development within County Clare. The study would outline all of the potential environmental and technical (grid connection) constraints and/or opportunities associated with solar development at the identified sites allowing CCC to plan ahead to ensure planned development of solar infrastructure across the county and avoiding potential for cumulative environmental impacts on landscape, landuse etc. and allowing for proper planning and sustainable development.</p> <p><b>Proposed Amendments to Objectives</b></p> <ul style="list-style-type: none"> <li>• <b>RES 7.1:</b> Increase the penetration of commercial scale solar energy projects <i>in line with national policy, proper planning and sustainable development.</i></li> <li>• <b>RES 7.2:</b> Promote integration of solar energy <i>in line with national policy, proper planning and sustainable development.</i></li> </ul>   |
| Chapter 8 – Bio-energy  | <p><b>General Mitigation</b><br/>As per Chapter 3 - new objectives to be included in Chapter 1.<br/><b>All general mitigation measures have been included in draft RES Chapter 1 as part of RES 1.1</b></p> <p><b>Proposed New Objectives</b><br/>Suggest adding new objectives as follows:</p> <ul style="list-style-type: none"> <li>• To support initiatives for energy research funding and to encourage the development of bioenergy opportunities, facilities and associated rural enterprises in the countryside in appropriate locations where such activities do not have a significant negative impact on the environment and where they assist in the diversification away from fossil fuels to green energy.</li> </ul>   |

| Reference                            | Mitigation   |
|--------------------------------------|--|
|                                      | <p><b>Mitigation has been incorporated into the RES 8.1 objective as RES 8.1 C</b></p> <ul style="list-style-type: none"> <li>Planning applications for biomass crops such as willow or miscanthus will consider potential environmental effects in relation to land use changes and in particular will assess potential for likely significant effects on European sites and other environmental sensitivities as identified by the EPA Environmental Sensitivity Mapping (ESM) Webtool and the Appropriate Assessment GeoTool. Sustainable best practice in the growing of biomass and in the associated forestry management shall be required: <ul style="list-style-type: none"> <li>The planning of biomass will be in accordance with the following guidance: Miscanthus Best Practice Guidelines, Teagasc and Agric Food and Biosciences Institute (April 2011); and</li> <li>Short Rotation Coppice Willow Best Practice Guidelines, Teagasc and Agric Food and Biosciences Institute (April 2011)</li> </ul> </li> </ul> <p><b>Mitigation has been incorporated into the RES 8.1 objective as RES 8.1 D</b></p> <ul style="list-style-type: none"> <li>It is an objective to monitor any land use change due to biomass/energy crops to ensure avoidance of impacts to the receiving environment including biodiversity and agriculture.</li> </ul> <p><b>Mitigation has been incorporated as new objective RES 8.6</b></p> <p><u>Proposed Amendment to Objective</u></p> <ul style="list-style-type: none"> <li><b>RES 8.4 B:</b> <i>To promote the installation of district heating schemes in line with national policy, proper planning and sustainable development.</i></li> </ul>                               |
| <p>Chapter 9 – Marine Renewables</p> | <p><u>General Mitigation</u><br/>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><u>Proposed New Objective</u></p> <ul style="list-style-type: none"> <li>To undertake a feasibility study of infrastructure (port, onshore grid, landfill locations etc) in relation to any new port development. The study would outline all of the potential environmental and technical (grid, depth of water) constraints and/or opportunities associated with port development at the identified sites allowing CCC to plan ahead to enable/facilitate offshore energy in line with national policy, proper planning and sustainable development.</li> </ul> <p><u>Proposed Amendments to Objectives</u></p> <ul style="list-style-type: none"> <li><b>RES 9.1 A, RES 9.2 B and C</b> should also include the following at the end of the Objective: ...<i>and in line with national policy, proper planning and sustainable development.</i></li> <li><b>RES 9.3 A</b> should be amended to state: To work in partnership with the marine renewable energy sector (wave, tidal and offshore), DECC, EirGrid and other relevant stakeholders to deliver the key actions recommended by the Ocean Renewable Energy Development Plan (OREDPA) and DS3 Programme, ensuring that electricity generated off the coast of County Clare can be exported to the demand market subject to the requirements of all environmental legislation <b>and in accordance with the OREDPA SEA Environmental Report and the Natura Impact Report.</b></li> </ul> <p><b>Mitigation has been incorporated as part of the objective.</b></p> |
| <p>Chapter 10 – Microgeneration</p>  | <p><u>General Mitigation:</u><br/>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><u>Proposed New Objective</u></p> <ul style="list-style-type: none"> <li>To require all planning applications for new buildings in the residential, industrial, commercial and agricultural sectors throughout County Clare to demonstrate how the energy needs of the proposed development can be provided for with indigenous renewable energy resources, harnessed by incorporating micro renewable technologies, as an important element in</li> </ul>   |



| Reference                                     | Mitigation  |
|---|---|
|   | <p>establishing a low carbon County and assisting in meeting assigned renewable energy targets.</p> <p><b>Mitigation has been incorporated as new objective RES 10.2 C</b></p> <ul style="list-style-type: none"> <li>All planning applications must be accompanied by an environmental appraisal outlining the potential impacts and required mitigation measures to reduce impacts on the natural environment and any potential impacts on architecture.</li> </ul>   |
| <p>Chapter 11 – Micro Hydroelectric Power</p> | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed Amendment to Objective</b></p> <ul style="list-style-type: none"> <li><b>RES 11.1:</b> To facilitate the development of micro hydro power developments on a case by case basis, where proposals comply with requirements of the Habitats Directive, Birds Directive, the relevant River Basin District Management Plan, the provisions of the Clare County Development Plan 2023 - 2028, with the 'Guidelines on the Planning, Design, Construction and Operation of small scale hydro electric schemes and Fisheries' (DCENR and Inland Fisheries Ireland) and other related legislation/ guidance that is available, in accordance with proper planning and sustainable development.</li> </ul> <p><b>Proposed amendments have been incorporated.</b></p> <p><b>Proposed New Objectives</b></p> <ul style="list-style-type: none"> <li>Any micro hydro development shall adhere to the overarching environmental objective RES 1.1.</li> <li>Any micro hydro power development shall be subject to the appropriate hydrological, hydromorphological and environmental assessments as required. In addition, the cumulative effect of multiple hydro power developments shall be considered at earliest stage within planning and design process.</li> <li>An Ecological Impact Assessment should identify all ecological factors, including ecological corridors, be accompanied by appropriate surveys, undertaken at the correct time of year and be undertaken by a suitability qualified and experienced ecologists. Details of the habitats impacted by the MHP will be required, including descriptions of protected species recorded and mapping of habitat locations and extents. The habitat mapping should be in accordance with best practice guidance.</li> <li>There are a number of plant species protected under the Flora Protection Order, 1999, which may potentially occur in some of the identified areas. Also, there are breeding sites and resting places of otter, and potentially of bats, (both of which are strictly protected under S.I. No. 477 of 2011, as amended), within the MHP areas this will require both survey for these and to comply with the Wildlife Acts and Regulations.</li> <li>Development of MHP must be undertaken in a sustainable manner with regard to the fisheries resources within the river. Developments of MHP must ensure that they do not impede the ability for fish to migrate upstream. Should a weir be required to be constructed in order to manage the flow to the turbine, a fish pass will be required to be integrated to ensure that there is an attractive upstream path for the fish. Each fish pass will be required to be designated in accordance with the fish species contained within the relevant river. All fish passes should be agreed with IFI.</li> <li>Consultation will be required with the IFI in relation to the development of any of the MHP sites identified in this strategy.</li> <li>A full archaeological, architectural and/or landscape assessment may be required in relation to any proposed application in relation to MHP.</li> </ul> |
| <p>Chapter 12 – Renewable Heat</p>            | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p>  |

| Reference                              | Mitigation   |
|--|--|
|  | <p>As biomass is currently the dominant fuel source for RES-H, planning applications for biomass crops would need to consider potential environmental effects in relation to land use changes and in particular will assess potential effects European sites, NHAs and pNHAs.</p> <p><b>Proposed Amendment to Objective</b></p> <p><b>RES 12.4 A:</b> <i>To protect wells, aquifers and other water courses in the development of shallow geothermal resources in accordance with the <b>National</b> River Basin Management for Ireland <del>2018-2021</del> <b>2022-2027</b> and <b>otherwise</b> in accordance with the requirements of the Water Framework Directive, the Habitats Directive and Birds Directive.</i></p> <p><b>Proposed amendments have been incorporated.</b></p>  |
| Chapter 13 – Renewable Transport       | <p><b>General Mitigation</b></p> <p>This chapter should include reference to the <i>National Policy Framework on Alternative Fuels Infrastructure for Transport 2017-2030</i> which is noted to have undergone SEA and AA.</p> <p><b>This has been included in supporting text.</b></p>  |
| Chapter 14 – Waste Resources to Energy | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed Amendment to Objective</b></p> <ul style="list-style-type: none"> <li>• <b>RES 14.2:</b> The Planning Department assessing applications for AD plants should consider requesting traffic management plans.<br/><b>A version of the mitigation has included reference to traffic management plans.</b></li> <li>• <b>RES 14.6:</b> To support the Southern Region Waste Management <b>Plan Authority</b> and the policies and objectives contained in any future <b>Regional</b> Waste Management Plan and to investigate the feasibility of energy recovery associated with the processing of MSW subject to compliance with environmental legislation.<br/><b>Proposed amendments have been incorporated.</b></li> </ul>  |
| Chapter 15 – Energy Storage            | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed Amendment to Objectives</b></p> <ul style="list-style-type: none"> <li>• <b>RES 15.1:</b> <i>To facilitate, where possible, forms of Energy Storage, including pump hydro-electric, battery and thermal energy storage and other forms of innovative energy storage that improves overall electricity grid resilience and stability. This includes facilities for green hydrogen production and storage <b>in line with national policy, proper planning and sustainable development.</b></i></li> <li>• <b>RES 15.2:</b> <i>Within the Indicative Area identified on Map 15.1, to facilitate the development of Pumped Freshwater Hydroelectric Energy Storage, subject to satisfactory environmental protection and <b>in line with national policy, proper planning and sustainable development.</b></i></li> </ul> <p><b>Proposed New Objective</b></p> <ul style="list-style-type: none"> <li>• <b>Any development of PHES shall adhere to the overarching environmental objective RES 1.1.</b></li> <li>• <b>Any PHES development shall be subject to the appropriate hydrological, hydromorphological and environmental assessments as required. In addition, the cumulative effect of multiple hydro power developments shall be considered at earliest stage within planning and design process.</b></li> </ul> |
| Chapter 16 – Supporting Infrastructure | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p>   |

| Reference   | Mitigation   |
|---|--|
|   | <p><b>Proposed Amendment to Objective</b></p> <p><b>RES 16.1E:</b> <i>To facilitate the expansion or upgrading of existing infrastructure, including roads, ports, piers, power lines and substations etc. to support the development of renewable energy projects <b>in line with national policy, proper planning and sustainable development.</b></i></p>   |
| Chapter 17 – Environmental Considerations & Development Management Advice | <p><b>General Mitigation</b></p> <ul style="list-style-type: none"> <li>• In order to avoid the potential for cumulative effects, the Planning Department assessing new applications should consider requesting traffic management plans which should include assessments of other nearby operations.</li> <li>• In order to avoid the potential for cumulative effects on the natural environment it is recommend that CCC monitor landuse change as a result of RE developments for the duration of the RES.</li> <li>• Table 17.2 should include a new measure to require the planning Department assessing new applications for RE infrastructure to consider the cumulative effects of any planned or permitted developments in the county on the receiving environment.</li> </ul> |
| Chapter 18 – Community Energy   | <p><b>General Mitigation</b></p> <p>As per Chapter 3 - new objectives to be included in Chapter 1.</p> <p><b>This mitigation has been incorporated into Chapter 1 as Objective RES 1.1 A-G</b></p> <p><b>Proposed Amendment to Objective</b></p> <p><b>RES 18.1 B:</b> <i>To encourage community owned renewable energy projects across County Clare, availing of support available through SEAI to develop the concept and design, and availing of community RESS auction funding for project implementation <b>in line with national policy, proper planning and sustainable development.</b></i></p>  |
| Cumulative Effects  | <p><b>General Mitigation</b></p> <ul style="list-style-type: none"> <li>• In order to avoid the potential for cumulative effects the Planning Department assessing new applications should consider requesting traffic management plans which should include assessments of other nearby operations.</li> <li>• In order to avoid the potential for cumulative effects on the natural environmental is recommend that CCC monitor landuse change as a result of RE developments for the duration of the RES.</li> <li>• Table 17.1 should include a new measure to require the Planning Department assessing new applications for RE infrastructure to consider the cumulative effects of any planned or permitted developments in the county on the receiving environment.</li> </ul>   |

## 9.6 Mitigation Measures associated with the incorporation of the Limerick Northern Distributor Route

Clare County Council adopted Variation No. 3 of the Clare County Development Plan 2011 – 2017 on 24<sup>th</sup> July 2015.

The purpose of the Variation and now the incorporation into the current County Development Plan 2023 – 202 is to reflect the preferred route of the Limerick Northern Distributor Road in the Plan, in the interests of clarity; having regard to objective **CDP 6.8 University of Limerick Clare Campus** and **Table 11.11** of the plan which facilitates specified projects – including the Limerick Northern Distributor Road and linkage to UL - for future development; to facilitate the comprehensive development of the University of Limerick in County Clare in a plan-led manner and safeguarding the provision of a vehicular University Link Road from County Clare to the campus.

The assessment highlighted that the adoption of Variation No. 3, without mitigation, has the potential to have a significant effect on the Lower River Shannon SAC. For Clare County Council to conclude that there will be no adverse effects on the Lower River Shannon cSAC (or any Natura 2000 Site) as a

consequence of the adoption of Variation No. 3 and its incorporation into the current County Development Plan 2023-2029 additional mitigation measures require introduction into the County Development Plan. These measures need to address the following:

- potential indirect hydrological impact on the Qualifying Habitats *Molinia* Meadows and Alluvial Woodland within the Knockalisheen Marsh area;
- potential impact on alluvial woodland habitat and otter habitat at the River Shannon Crossing.

The SNH Guidance (2012) and the associated Advice Sheet ‘*Screening general policies and applying simple mitigation measures*’ (SNH 2012) outline the means by which further mitigation measures can be introduced to a Plan. This includes, for example, policy restrictions, policy caveats and prescribing mitigation measures to be confirmed by a more detailed appropriate assessment. In each instance the Guidance is clear that the measures taken must be specific, explicit and added to the policy and not merely added to the explanatory text or commentary.

The SNH Advice sheet states that as a general rule policy caveats, restrictions or qualifications should be:

- a) Included in the plan and not just in the NIR or a supporting document;
- b) Included in the policy wording where policies are distinguishable from the other text, or in the text of the plan where policies are not distinguished from other text;
- c) Specific to the case, issue or proposal and/or the particular European site(s);
- d) Related to the qualifying interests and/or the site potentially affected, and to the NIR and its findings, which must be available and accessible;
- e) Explicit about the meaning and implications for decision-making, such as clearly indicating “*Planning permission will be granted only where it can be ascertained that the proposal would not have an adverse effect on the integrity of [the case specific] European site*”; -
- f) Short and ‘tightly’ worded, the NIR can provide the context, explanation and purpose of the qualification.

Reflecting these criteria, it is recommended that the following measures be incorporated into the Clare County Development Plan 2023 -2029:

### **Specific Mitigation Measures relating to the LNDR**

To avoid potential indirect hydrological impacts on Knockalisheen Marsh

The proposed route corridor of Limerick Northern Distributor Road across the area referred to as Knockalisheen Marsh was specifically located to ensure that there would be no direct impact on any qualifying or Annex habitat.

A grassland assemblage which has been determined to sufficiently resemble the annex habitat *Molinia* Meadows occurs in patches to the north of the route. In addition, a small patch of alluvial woodland

occurs alongside the Knockalisheen stream (where the Knockalisheen stream regularly floods) and a Marsh habitat (the annex habitat Hydrophilous tall herb fringe communities) was also recorded present to the north of the route. This habitat has specific hydrological requirements.

The mitigation measure in this instance must address the requirement to maintain the existing surface and groundwater conditions within the Knockalisheen Marsh area. This will require hydrological assessment of the area, the outcome of which will be used to direct the design of the road across this area.

It is recommended that the following additional objective be added to CDP 11.15 as a specific objective for the future development of Limerick Northern Distributor Road:

- MM1 Results from a detailed hydrological, hydrogeological and engineering assessment shall inform the design of the Limerick Northern Distributor Road and University Link Road to avoid adverse negative effects on the existing hydrological and hydrogeological regime within the Knockalisheen Marsh area.

*Explanatory text:*

Detailed assessments undertaken by personnel with relevant expertise shall be completed prior to the design of the proposed road being finalised. The road and any structures across the Knockalisheen Marsh area shall subsequently be designed to avoid any adverse impact on the integrity of the site. This will be facilitated by measures to achieve hydrological continuity by culverting under the road embankment, and by diversion of road drainage runoff to suitable outfalls. The road design will be further informed by the requirement to ensure hydrogeological continuity in the underlying soils. This was added to the CDP through objective 11.15.

To avoid potential adverse impacts on the Lower River Shannon cSAC as a result of the new crossing point

The design of the structure across the River Shannon is critical to ensure that there is no impact on the river edge habitats, that there is sufficient light under the bridge to ensure retention of the existing vegetation and that the habitat connectivity is maintained.

The design of a structure of this magnitude is a significant undertaking and a balance has to be struck between an objective which restricts the design process and an objective which strengthens the protection of the SAC.

It is recommended that the following additional objective be added to CDP 11.15 as a specific requirement for the future development of Limerick Northern Distributor Road:

- MM2 The design of the River Shannon Bridge shall be informed by the overriding requirement to avoid adverse impacts on the qualifying interests of alluvial woodland, otter and lamprey species when assessed under the Habitats Directive.
- MM3 The bridge abutments will be set back a sufficient distance to allow for the retention of any existing riparian habitats or areas with the potential to develop into alluvial woodland, this will ensure maintenance of ecological connectivity on both banks of the River Shannon.

- MM4 The bridge deck will be constructed at a sufficient height to allow for the continued development of the any alluvial woodland present on both banks of the River Shannon and there will be no net loss of habitat.

*Explanatory text:*

The proposed bridge over the River Shannon shall be so designed that it will allow for the retention of any existing alluvial and otter habitat/connectivity present on the banks of the Shannon at the crossing location. The necessary ecological assessment of the bridge design will be informed and supported by a detailed review and assessment of similar development in comparably sensitive environments. The construction of the bridge will be required to be monitored by a suitably qualified ecologist.

As mentioned previously lamprey ammocete beds may occur in the river banks along the River Shannon at the proposed crossing point. In order to address these concerns appropriate surveys to establish any presence of this species will be carried out at the crossing location prior to construction works beginning and where deemed necessary these areas will be salvaged.

To avoid potential adverse impacts on qualifying interests outside the cSAC boundary

Certain watercourses outside the Lower River Shannon cSAC provide habitat for mobile qualifying interests e.g. Otter, Salmon, Lamprey. In addition to this construction works may have an impact on the water quality within these watercourses that are all directly linked and flow into the Lower River Shannon cSAC.

Therefore to ensure that there is no adverse impact on the conservation objectives of the Lower River Shannon cSAC as a result of works being carried out in close proximity to watercourses that fall outside the cSAC boundary it is recommended that the following additional objective be added to CDP 11.8 as a specific requirement for the future development of Limerick Northern Distributor Road:

- MM5 - The Tailrace Canal, Errina Canal and River Blackwater will all be crossed on clear span structures, with the abutments sufficiently set back from the watercourse banks to ensure maintenance of ecological connectivity. The necessary ecological assessment of the design of these bridges will be informed and supported by a detailed review and assessment of similar development in comparably sensitive environments. The construction of the bridges will be required to be monitored by a suitably qualified ecologist. Appropriate mitigation will be employed to avoid risks of pollution during both the constructional and operational phase.

It should be noted that all the above mitigation measures have been included in the adopted variation.

In addition to the above matters due to the nature of the Variation which involves introducing a preferred route corridor within which the road will be located there remains a considerable amount of uncertainty as to the exact scale, type and construction methodology of the river crossings in particular. However, by undertaking the appropriate assessment process and assessing the cumulative and in-combination effects the most significant effects have been eliminated through avoidance, removal or specifying certain bridge design measures at crossing locations. In order to ensure no significant effects, remain at project level and to ensure the current variation has been appropriately assessed further mitigation as outlined in **Table 9.6** has been included to ensure any



remaining scientific uncertainty is avoided at project level and consideration of Article 6(4) in particular is undertaken should it be deemed necessary at that stage.

**Table 9.6 LNDR Additional Mitigation Measures**

| Reference | Mitigation Measures   |
|-----------|---|
|           | <b>Design level</b>   |
| DL1       | The preferred route corridor has been subject to Appropriate Assessment and the production of an NIR at Plan level, however at project design stage should issues arise under Article 6(3) of the Habitats Directive and the associated assessment produces a finding of adverse effects on the integrity a European site, an alternative solution may be required. |
| DL2       | In selecting the exact watercourse crossing locations within the preferred route corridor, there shall be full compliance with Article 6(3) (and, if warranted, Article 6(4), including compensatory measures) of the Habitats Directive.   |
| DL3       | Pre-Construction surveys shall be conducted by suitable qualified ecologists to ensure the design stage Appropriate Assessment has a sufficient level of scientific data to inform the assessment.  |
| DL4       | A full suite of geomorphological, hydrological, and topographical surveys shall be required and provided at project design stage to inform the project level Appropriate Assessment.  |
| DL5       | The Construction Method Statement shall form part of the overall project design together with the development of an Environmental Construction Management Plan (ECMP) which together shall be subject to Appropriate Assessment as part of the overall project assessment.  |
| DL6       | All permits and consents required as part of the project shall be addressed at project design stage and incorporated as part of the overall Appropriate Assessment  |
| DL7       | Ongoing monitoring to assess the real time environmental impact of all site preparation, construction and post construction works shall take place, by suitably qualified ecologists  |
| DL8       | The design of any in-stream structure shall not lead to any alteration of the channel morphology, flow regime, depositional patterns or interfere with habitat continuity.  |
| DL9       | The bridge deck will be constructed at a sufficient height to allow for the development   |

| <b>Conservation Objective specific mitigation measures</b> |   |   |
|--|---|---|
| <b>Otter</b>   |   |   |
| <b>O1</b>  | <b>Direct physical loss/damage to habitats</b>  | Detailed otter surveys shall be required and provided for in order to fully understand and mitigate for this risk at design stage.  |
| <b>O2</b>  | <b>Direct physical damage to mobile species</b> | The use of protective netting or grids shall be made during the construction stage.   |
| <b>O3</b>  | <b>Indirect disturbance or loss of habitat</b>  | <p>Minimize the use of high noise emission activities such as impact piling and blasting (should it be required).</p> <p>Enforce speed limits for all equipment used during construction and establish a code of conduct to avoid disturbance to otters both at the construction site and in transit to construction areas if entering areas of habitat usage or distribution.</p>  |
| <b>O4</b>  | <b>Direct disturbance</b>                       | Given the close proximity of the mapped commuting route of Otters (as per the Conservation Objectives for the site (CO002165) downstream of Parteen) any temporary obstruction to connectivity during construction works between the main River Shannon and the tailrace where commuting routes may occur should be alleviated through the installation of appropriately designed Otter passes which shall be routinely checked throughout the duration of the works. |
| <b>Alluvial woodland</b>                                   |   |   |
| <b>AW1</b>   | <b>Direct physical loss/damage to habitat</b>   | At the project design stage all works shall be carefully designed to ensure no direct loss of the priority Annex 1 habitat and/or it's corresponding four vegetation types.   |
| <b>AW2</b>   | <b>Indirect disturbance</b>                     | Areas with the potential to develop into Alluvial woodland where suitable terrain exists and the vegetation composition allows, shall be avoided in order to maintain or increase (subject to natural processes) the overall habitat area and distribution within the SAC.  |

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| <b>AW3</b>                                     | <b>Indirect disturbance or loss of habitat</b> | There shall be no alteration to the hydrological regime necessary for maintenance of alluvial vegetation. Periodic flooding is essential to maintain alluvial woodlands along river floodplains.   |
| <b>AW4</b>                                     | <b>Biological disturbance</b>                  | The project design stage shall ensure negative indicator species, particularly non-native invasive species remain absent or under control.   |
| <b>Sea Lamprey</b>                             |  |  |
| <b>SL1</b>                                     | <b>Indirect disturbance or loss of habitat</b> | Any potential impacts to water quality which may lead to an in-direct effect on the extent and distribution of spawning habitat shall be avoided   |
| <b>Brook or River Lamprey</b>                  |  |  |
| <b>BRL1</b>                                    | <b>Direct physical loss/damage to habitat</b>  | On all lower order watercourses all culverts should be designed in such a way as not to impede distribution and accessibility.   |
| <b>BRL2</b>                                    | <b>Indirect disturbance or loss of habitat</b> | Any potential impacts to water quality which may lead to an in-direct effect on the extent and distribution of spawning habitat shall be avoided   |
| <b>Atlantic Salmon</b>                         |  |  |
| <b>AS1</b>                                     | <b>Direct physical loss/damage to habitat</b>  | On all lower order watercourses all culverts should be designed in such a way as not to impede distribution and accessibility.   |
| <b>AS2</b>                                     | <b>Indirect disturbance or loss of habitat</b> | Any potential impacts to water quality which may lead to an in-direct effect on the extent and distribution of spawning habitat shall be avoided   |
| <b><i>Molinia</i> Meadows</b>                  |  |  |
| <b>MM1</b>                                     | <b>Direct physical loss/damage to habitat</b>  | At the project design stage all works shall be carefully designed to ensure no direct loss of habitat.   |
| <b>MM2</b>                                     |  | Detailed, targeted surveys will be required and shall be provided in order to maintain or increase (subject to natural processes) the overall habitat area and distribution within the SAC in particular for areas which were previously unmapped. |
| <b>Watercourses of plane to montane levels</b> |  |  |

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| <b>WC1</b> | <b>Direct physical loss/damage to habitat</b>  | At the project design stage all works shall be carefully designed to ensure no direct loss of habitat.  |
| <b>WC2</b> | <b>Indirect disturbance</b>                    | Detailed, targeted surveys will be required and shall be provided in order to maintain or increase (subject to natural processes) the overall habitat area and distribution within the SAC. |
| <b>WC3</b> | <b>Indirect disturbance or loss of habitat</b> | Any potential impacts to water quality which may lead to an in-direct effect on the concentration of nutrients or the expected typical vegetation composition shall be avoided.             |

## Chapter Ten - Monitoring

### 10.1 Requirement for Monitoring

Article 10 of the Strategic Environmental Assessment Directive (2001/42/EEC) requires that monitoring must be undertaken of the significant environmental effects directly related to the implementation of the Plan. This is to provide for any unforeseen adverse effects to be identified at an early stage in its implementation, allowing for appropriate remedial action to be undertaken.

*“in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”*

Article 10, SEA Directive

The primary purpose of monitoring is to allow the actual impacts of the Clare County Development Plan 2023-2029 on adoption to be assessed against the Strategic Environmental Objectives and their associated targets and indicators. The indicators used will show changes that would be attributable to the implementation of the County Development Plan.

Monitoring can use existing sources of information and does not necessarily require new research to be undertaken but can be effective in identifying where additional research should be targeted to supplement where information is deficient. **Table 10.1** sets out the strategic environmental objectives, targets and indicators to be applied in monitoring the significant environmental effects of the implementation of the plan, in accordance with Section 13J(2) of the Planning and Development (SEA) Regulations 2004, as amended. It is proposed that the SEA monitoring reporting should go parallel with the reviewing of the Clare CDP. As outlined in the *Strategic Environmental Assessment Draft Guidelines for Regional Assemblies and Planning Authorities October 2021* monitoring the effects of the plan over its implementation period and maintaining records of these monitoring results reduces the risk of loss of organisational memory of the SEA process and can allow effective focusing of resources in future cycles of the plan. The draft guidelines also recommend the monitoring reports should be made available online to allow for future analyses for other purposes, such as environmental impact assessment of projects and strategic environmental assessment of other plans and programmes.

**Table 7.0** below presents the SEA Monitoring Table. The SEA Objectives formed the basis of the assessment of the Clare CDP, and it includes targets (overall aim), indicators (measurement of monitoring change), data sources and agency/body responsible for the monitoring.

As several indicators within the monitoring table relate to the number of planning applications received it is also recommended that data arising from planning applications, particularly in terms of environmental monitoring through the preparation of Screening Reports for Appropriate Assessment, Ecological Reports, Environmental Impact Assessment Reports, Environmental Reports etc be integrated into the GIS and a dedicated environmental database. This will assist in assessing cumulative impacts also, ecology and water quality. This is something which Clare County Council Planning Department has partially undertaken but which should be prioritised and driven through the CDP Monitoring Programme.

**Table 10.1 Strategic Environmental Objectives, Targets and Indicators**



| Strategic Environmental Objective  | Target  | Indicator/Data Sources  | Remedial Action | Source/Responsibility/Frequency  |
|--|---|---|-----------------|--|
| <b>Climate Change</b>  |   |   |                 |  |
| CC1 - Reduce the need to travel/increased use of public transportation and achieve modal shift in transport across the county. | An increase in the percentage of the population travelling to work, school or college by public transport or sustainable modes of transport (walking, cycling). Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels | <p><i>See C2 for more details</i></p> <p>% Increase in the number of people reporting regular cycling/walking to school and work above 2016 CSO figures.</p> <p>Consultations with Department of Communication Climate Action and Environment.</p> <p>CSO data.</p> | <b>TBC</b>      | CCC Forward Planning section review of CSO figures in relation to car journeys and mode of transport |

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| <p>CC2 – Decrease the usage of fossil fuels and increase both renewable resource usage and protection together with a move towards more low carbon energy sources.</p> | <p>For review of progress on implementing Plan objectives to demonstrate successful implementation of climate reduction targets as provided for by Plan provisions including those provided for and referenced in Chapter 1 “Climate Action”</p> <p>Increase in the proportion of people resident in the County reporting regular cycling / walking to school and work above 2016 CSO figures</p> <p>Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based car compared to 2016 levels</p> <p>Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050</p> <p>Contribute towards the target of the Renewable</p> | <p>Implementation of Plan measures relating to climate reduction targets as provided for by Plan provisions including those provided for and referenced/discussed in Chapter 1 of the CDP “Climate Action”</p> <p>Proportion of journeys made by private fossil fuel-based car compared to 2016 levels.</p> <p>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</p> | <p><b>TBC</b></p> | <p>CCC Forward Planning section in conjunction with the Climate Action Regional Office, Limerick Clare energy Agency - annual</p> |
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|  | <p>Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by 2020</p> <p>Contribute towards the target of aggregate reduction in carbon dioxide (CO2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors</p> <p>To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating.</p> |  |  |  |
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| <p>CC3 – Integrate Climate Change mitigation measures into every fabric of spatial planning through the restriction of inappropriate development/land-use zoning in flood risk zones, inclusion of green infrastructure as the status quo and the incorporation of suitable Sustainable Urban Drainage Systems (SuDs) into all developments</p> |   |   | <p><b>TBC</b></p> |  |
| <p>CC4- Maintain and protect our natural carbon sinks (bogs/marshes/forests/fens) as decarbonising areas which can serve a dual purpose in terms of enhancement of biodiversity and mitigation against Climate Change.</p>  | <p>No loss of wetlands, bogs, fens, marshes, or other carbon sinks across the county through reclamation, infilling or development.</p> | <ul style="list-style-type: none"> <li>• Change in landuse across the county</li> <li>• Protection of key areas of flood plains and associated wetland features</li> <li>• Reclamation/Infilling of bogs, fens and other wetland habitats.</li> </ul> | <p><b>TBC</b></p> | <p>Clare County Council Forward Planing and Development Management sections co-ordinated through the SEA Officer in terms of planning applications granted across these habitats</p> |
| <p><b>CC Adaptation Measures</b></p>  |   |   |                   |  |

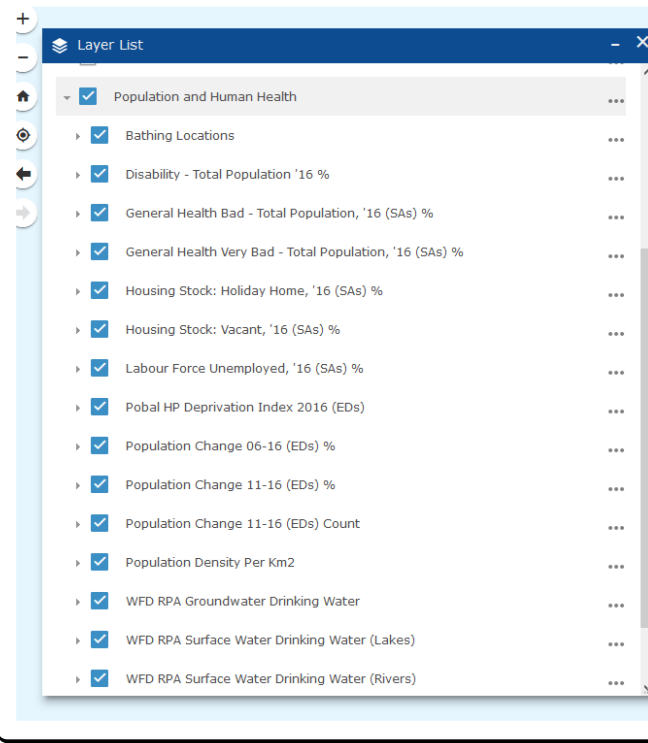
|   |   |  |                   |   |
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| <p>CC5- Encourage and support the utilisation of energy-efficient and water-efficient building design to better equip homes and businesses to cope during times of shortage and service interruption, such as grey-water recycling, the use of solar PVs, passive houses etc.</p> | <p>To minimise emissions of greenhouse gasses.</p> <p>Integrate sustainable design solutions into the County’s infrastructure (e.g. energy efficient buildings; green infrastructure).</p> <p>Contribute towards the reduction of greenhouse gas emissions in line with national targets.</p> <p>Promote development resilient to the effects of climate change.</p> <p>Promote the use of renewable energy, energy efficient development and increased use of public transport</p> | <p>Implementation of Plan measures relating to climate reduction targets as provided for by Plan provisions including those provided for and referenced in Chapter 1 “Climate Action”.</p> <p>No. of applications for retrofitting of buildings with energy efficient equipment.</p> <p>No. of applications for SEAI deep retrofit grant.</p> <p>No. of application with climate adaptation measures incorporated e.g. SuDs, Nature Based Solutions, solar panels etc.</p> | <p><b>TBC</b></p> | <p>Clare County Council Forward Planing and Development Management sections co-ordinated through the SEA Officer in terms of planning applications granted for retrofits and/or including climate adaptation measures.</p> <p>LCEA/SEAI in relation to SEAI deep retrofit grant applications.</p> |
| <p>CC6 – Encourage the retrofitting of buildings with a particular focus on the existing council housing stock ensuring a Just Transtion for all.</p>   | <p>Contribute towards the reduction of greenhouse gas emissions in line with national targets.</p>  | <p>No. of applications for retrofitting of buildings with energy efficient equipment.</p>  | <p><b>TBC</b></p> | <p>Clare County Council Forward Planing and Development Management sections co-ordinated through the SEA Officer in terms of planning applications granted for retrofits of existing council housing stock.</p>   |

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| <p>CC7 – Avoid situations that limit adaptation to climate change such as zoning lands in close proximity to a known flood risk area.</p> | <p>No zoning directly adjacent to known flood risk areas.</p> | <p>Unzoned lands directly adjacent to areas known to be prone to flooding. Where new areas become at risk from flooding due to climate change, further areas may be required for climate adaptation.</p> | <p>Review CDP zoning and associated landuse in areas of land directly adjacent to flood prone areas and amend as new information arises.</p> | <p>Clare County Council Forward Planing and Development Management sections co-ordinated through the SEA Officer.</p> |
|---|---|--|--|---|



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| <p>CC8 – In preparing the spatial plan for our county that we develop ecologically resilient and varied landscapes through the establishment and preservation of ecological networks and stepping-stones as part of our settlement zonings and objectives and foster adaptive management practices in the face of uncertainty, favouring flexible adaptation options and allowing for alterations of the Plan as monitoring and evaluation data become available during its implementation.</p> | <p>% Increase in the extent and preservation of ecological networks and stepping-stones zoned as part of the County Development Plan and within the Settlement Strategies.</p> | <p>Extent/Quantity of riparian buffer zones, open space and green infrastructure zoned as part of our County Development Plan.</p>  | <p>Where encroachment is occurring within these areas, ensure enforcement action is taken to reinstate habitat and associated zoning.</p> | <p>Clare County Council Forward Planning and Development Management sections co-ordinated through the SEA Officer.</p> |
| <b>Population, Human Health and Quality of Life</b>   |  |   |   |  |
| <p>P1 – Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.</p>  | <p>Increase in the number of green spaces and amenities available to the public.<br/><br/>Improved access to community and recreational facilities</p>                         | <p>No/area of green spaces and amenities available to the public. No of Green Infrastructure Plans/strategies prepared in line with CDP Objective 15.13.<br/><br/>Sustainable densities achieved in new residential/mixed use schemes</p> | <p>Review CDP zoning to assess preservation of amenity/green space</p>  | <p>Clare County Council Forward Planning Team.<br/><br/>Clare County Council Development Management.</p>               |

|  |   |   |  |   |
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|  | <p>No significant deterioration in human health as a result of environmental factors.</p> <p>Provide opportunities or measures for the population to access and use renewable energy resources.</p> | <p>which also achieve high standards of design and which respect the surrounding landscape.</p> <p>No of applications/Percentage increase in the number of schools, creches, community parks, sports facilities and primary health care centres.</p> <p>Availability of public transport/ smarter travel initiatives.</p> <p>Occurrence of any decline in human health around the plan area.</p> <p>See Air and Climate and Transport Targets and indicators below.</p> | <p>If negative trends are identified, CCC will develop a tailored response to address issues/bottlenecks in the planning process</p> | <p>Clare County Council Development Management.</p> <p>Iarnród Eireann - Annual</p> <p>Bus Eireann – Annual</p> <p>Clare County Council Municipal District Offices</p> <p>EPA State of the Environment Report</p> <ul style="list-style-type: none"> <li>Deterioration in Air Pollutants Monitored in the National Ambient Air Quality Monitoring Network</li> </ul> <p>Utilisation of the data contained in the Environmental Sensitivity Mapping tool under the Population and Human Health category to identify any key areas of deterioration since the adoption of the Plan. The SEA Officer within the council should undertake a baseline mapping/reporting exercise upon adoption of the Plan as a record of the current status which can be used to monitor the changes against.</p> |
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| <p>P2 – Protect Human Health</p>            | <p>Compliance with air quality legislation in particular around the town of Ennis.</p> | <p>Number of exceedances of air quality limits.<br/>                 Number of Enforcement Actions taken due to breaches by retailers/distributors and the public Under the Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels) Regulations 2012.</p> | <p>Review awareness campaigns/initiatives in relation to air quality issues to improve knowledge and awareness.</p> | <p>EPA Air Quality Monitoring Annual Report (nearest stations applicable to Ennis) (yearly reporting)</p> |
| <p><b>Biodiversity, Flora and Fauna</b></p> |  |  |   |   |

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| <p>B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species, wildlife corridors, ecosystems and geological features.</p> | <p>Reduction in length or loss of hedgerows.</p> <p>No. ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the Clare County Development Plan 2023 – 2029.</p> <p>Stable or increasing number of bat roosts within the county.</p> <p>Status of the Cloon Freshwater Pearl Mussel catchment.</p> | <p>No. of developments granted planning permission within designated sites</p> <p>No. of Natura Impact Statements submitted to Clare County Council. Where mitigation is proposed to offset loss or to promote enhancement monitoring should be undertaken to assess the achievement or otherwise of the measures.</p> <p>No./% increase/decrease in bat roosts within the county.</p> <p>No. of objectives/policy actions delivered by the biodiversity plan.</p> <p>Status of Cloon freshwater pearl mussel catchment.</p> | <p>Where condition of European sites is found to be deteriorating this will be investigated with reference to the NPWS to establish if the pressures are related to CDP actions/activities. A tailored response will be developed in consultation with relevant stakeholders.</p> | <p>Forward Planning/Development Management through the SEA Officer.</p> <p>Utilisation of GIS data sets and consultation with NPWS to establish changes since the adoption of the Plan.</p>  |
| <p>B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.</p>   | <p>No loss of protected habitats and species during the lifetime of the Plan.</p> <p>No compromise in the favourable conservation condition of European sites. No compromise or</p>  | <p>No./percentage of developments in/near the Natura 2000 network.</p> <p>Percentage of European sites in the plan area that are at 'Favourable' conservation status.</p>  | <p>As for B1</p>  | <p>Using GIS query the European sites dataset as provided by the NPWS against planning applications received for the No./% applied for within these areas and the No./% refused/granted.</p> |

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|  | impact on the achievement of the favourable conservation condition objectives (whether maintain or restore) of European sites.   | Percentage of Qualifying Interest Features which have achieved their specific objectives of maintain or restore.  |     | <p>Review the conservation status of the European Sites in Clare against the status as documented in the preparation of the CDP.</p> <p>Where permissions have been granted and/or developments have taken place within European sites are the Qualifying Interest Features achieving their specific objectives.</p> <p>Responsibility; Forward Planning, Development Management, SEA Officer.</p> |
| B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act. | <p>No loss of protected habitats &amp; species during the lifetime of the Plan.</p> <p>Submission of Screening Report or Natura Impact Statement for proposed developments with planning applications in/and/or near European Sites.</p> | <p>Percentage of unique habitats and species lost in designated sites through trending of annual surveys.</p> <p>Provision/No. of Screening Reports/Natura Impact Statements with developments proposed for sites in/and/or near European sites.</p>                    | TBC | <p>Forward Planning/Development Management through the SEA Officer should assess planning applications within these sites to establish if there has been a percentage loss of protected habitats and/or species.</p> <p>Site visits may be required to ground truth the GIS analysis.</p>  |
| B4 - Meet the requirements of the Water Framework Directive and the River Basin Management Plan.   | All waters within the plan area to achieve the requirements of the WFD and the relevant River Basin Management Plan by 2027.   | <p>No. of surface and groundwater bodies achieving "Good Status". No of waterbodies indicating deterioration in status.</p> <p>No. of planning applications with sufficient inclusion of buffer zones and Sustainable urban Drainage Systems (SuDS) where necessary</p> | TBC | <p>Forward Planning and Development Management. SEA Officer to compare WFD status results to the baseline as used in the preparation of the CDP 2023-2029.</p> <p>Utilise EPA WFD Application and Catchments.ie for CCC-specific information on the significant threats and pressures impacting WFD status and Risk.</p>   |

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|   | Ensure provision of riparian zones at project/site level.   | and applicable (in both urban and rural settings).   |     |  |
| B5 – To minimise and, where possible, eliminate threats to biodiversity including invasive species. | <p>Prevent the introduction of new invasive or alien species.</p> <p>Control/manage new invasive species.</p> <p>Control/manage/eradicate invasive species throughout the county.</p> | <p>No., type and location of invasive species identified.</p> <p>No. of actions achieved under the Biodiversity Action Plan.</p> <p>Increase/decrease in coverage of invasive species identified through the Municipal Districts of Ennis, Killaloe, Shannon and West Clare. Each MD have a programme of invasive species eradication underway in September and October with funding from the National Parks and Wildlife Service (Dept. Housing, Local Government &amp; Heritage), National Biodiversity Action Plan Funding 2021.</p> <p>Follow up work will involve further mapping of the problem species, Knotweed and Giant Hogweed in particular and proposed long term management and control measures.</p> <p>No. of submissions/observations submitted through invasive species Ireland “Alien Watch”.<br/> <a href="http://www.invasivespeciesireland.com/alien-watch">www.invasivespeciesireland.com/alien-watch</a></p> <p>No of Planning Applications which are accompanied by an Alien/Invasive Species Report and/or requested through the</p> | TBC | SEA Officer in conjunction with the Heritage Officer in conjunction with the Municipal District Offices on a yearly basis. |



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|  |  | <p>Planning Department to prepare a Alien/Invasive Species Management Plan.</p> <p>The National Biodiversity Data Centre will track success in the implementation of the All-Ireland Pollinator Plan by measuring increases in the abundance and diversity of pollinators within the Irish landscape as the 81 actions are implemented.</p> |  |  |
| B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors.   | Ensure new development is set back from rivers in line with the zoning for Open Space and Buffer Zones within the County Development Plan. .   | No. planning permissions granted within these zoned areas.  | Review CDP zoning to assess preservation of amenity/green space  | Forward Planning and Development Management co-ordinated by the SEA Officer. Run GIS process/analysis to select areas zoned as Open Space/Buffer space against mapped planning files to establish if there has been a loss in the protection of these critical habitats and ecosystems and their associated species and services they provide. |
| <b>Soil and Geology</b>  |  |   |  |  |
| S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites. <i>(This is in line with the Active Land Management Strategy RPO34 – Regeneration, Brownfield, Infill Development)</i> | <p>Preference for development on brownfield site over green field.</p> <p>Specified % of new applications granted to be on brownfield sites.</p> <p>Limited and controlled development of greenfield sites.</p> <p>Re-use of soil from redeveloped sites where possible.</p> | <p>No/% of new developments on brownfield sites.</p> <p>Area of brownfield land developed over the plan period.</p> <p>% of total greenfield land developed.</p> <p>% landcover in comparison with 2018 Corine figures.</p> <p>Level of urbanisation.</p>   | Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF and the RSES, the Council will liaise with | Forward Planning and Development Management co-ordinated by the SEA Officer. Annual through a review of planning applications utilising GIS.<br><br>CCC Environmental Section in conjunction with the EPA  |

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|   | No incidences of soil contamination.                    | Excessive land-filling of quality soil.<br><br>Incidences of soil contamination.<br><br>Volume of contaminated material generated in comparison with previous years' figures. | the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so.<br><br>Review of local authority applications for legacy landfill remediation authorisation. Where progress is stalled, CCC to work with the EPA to identify any bottlenecks in the process. |   |
| S2 – Minimise the excavation and movement of soils within site works. | Limited and controlled development of greenfield sites. | Volume of construction and demolition waste recycled.<br><br>No. of brownfield sites that have been redeveloped.  | TBC  | Forward Planning and Development Management coordinated by the SEA Officer. |

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|   | Limit the amount of excavation in sensitive locations for example peat excavation in wind farm sites.  |   |     |   |
| S3 – Minimise the consumption of non-renewable deposits on site.  | <p>Re-use of soils from redeveloped sites where possible.</p> <p>Increased provision of construction and demolition waste facilities.</p> <p>Ensure sustainable extraction of non-renewable sand, gravel and rock deposits and the reuse and recycling of construction and demolition waste.</p> | <p>Excessive land-filling of quality soils.</p> <p>No. of facilities for Construction and Demolition Waste.</p>   | TBC | Forward Planning and Development Management coordinated by the SEA Officer. Review of number of applications associated with infilling of lands to establish source of waste. |
| <b>Water</b>  |  |   |     |   |
| W1 – Implement appropriate Sustainable urban Drainage Systems (SuDS) in the County with a focus on Nature Based Solutions. (Attenuate, innovate, reuse, reimagine & | New drainage systems to be compliant with SuDs.  | <p>No. of developments granted planning permission that incorporate SuDs.</p> <p>No of innovative Nature Based Solutions incorporated into developer or council related projects.</p> |     | Forward Planning/Development Management coordinated through the SEA Officer – Quarterly planning permissions granted.   |

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| utilise water in a different way)  |  |  |   |   |
| W2 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies. | Improvement or at least no deterioration in surface and groundwaters by 2027.    | Changes in receiving waters and groundwater quality as identified by water quality monitoring programmes conducted by CCC and EPA.                   |   | Environment section of Clare County Council co-ordinated through SEA Officer in conjunction with a review of the baseline surface and ground water quality as outlined in the Clare County Development Plan 2023-2029.  |
| W3 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.   | Pressure on water and wastewater treatment plants.                               | Decrease in no. of water shortage notices issued during drought periods.<br>Decrease in the amount of water consumed per household in the plan area. | Where negative trends are identified, CCC to review awareness campaigns/ initiatives in relation to water management issues to improve knowledge and awareness. | Clare County Council/Irish Water<br><br>Review response to awareness campaigns ran by the Environment section of Clare County Council.  |
| W4 –Protect flood plains and areas of flood risk from development through avoidance,   | In accordance with OPW/DoEHLG, all planning applications within designated Flood | Level and location of flooding.  | TBC   | CCC – Records obtained as and when flood events occur<br>OPW – As updated on <a href="http://www.floodinfo.ie">www.floodinfo.ie</a><br><br>Forward Planning – SEA Officer to map flood events since the publication of the County Development Plan against planning |

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| mitigation and adaptation measures.  | Risk Zones A and B as identified in the Strategic Flood Risk Assessment for the Plan are required to undertake Site Specific Flood Risk Assessment.                    |   |  | permissions granted to assess if development has taken place within a flood plain, areas prone to flooding or as a result of climate change in areas which have now become prone to flood and therefore may merit a change to zoning within the County Development Plan as a result of monitoring.  |
| W5 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters. | Maintain water quality, no pollution or contamination issues in our rivers and lakes in particular but also our estuaries and all waters designated as bathing waters. | Adherence to bathing water guidance and standards in accordance with the bathing water Directive and associated Regulation (S.I. No. 79 of 2008). | Where negative trends/deterioration in bathing quality is identified, CCC with work with the EPA to identify key pressures and develop a tailored response to reduce/eliminate the sources of pollution. | Retention or approval for Blue Flag status - The Blue Flag is operated in Ireland by An Taisce-The National Trust for Ireland on behalf of the Foundation for Environmental Education (FEE) – Annually<br><br>Progression of bathing waters from ‘sufficient’ to ‘good’ to ‘excellent’ with no waters categorised as ‘poor’ in accordance with the water quality standards specified in the 2008 Regulations with a classification of at least ‘sufficient’ to be achieved for all bathing waters.<br><br>No of beach closures by Clare CoCo across the county due to a deterioration in water Quality. |
| <b>Air and Climate Change</b>  |  |   |  |   |
| C1 – Minimise all forms of air pollution and maintain/improve ambient air quality.   | Maintain ambient air quality through reduction of private vehicle usage.   | Air quality indicators.<br>No of/usage of EV Charge points<br><br>Number of Electric Vehicles registered in the county.                           | Where targets are not achieved, the Council will liaise with the Regional  | Forward Planning, Development Management coordinated through the SEA Officer with respect to the no of EV charge points associated with granted developments.<br><br>EPA – Air Quality Index for Health (AQIH)  |

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|  | <p>Increase the production of energy from renewable energy resources.</p> <p>Increase the number of air monitoring stations in the County</p> | <p>% Compliance with EPA emission limits for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter</p> <p>Number of new air monitoring stations in the County.</p> <p>Monitor the trends in air quality indicators NoX to ensure move to EV is showing a positive trend</p> <p>Monitor the trends in air quality indicator Particulate matter to ensure move to CHP is not causing negative impacts</p> | <p>Assembly, the EPA and the Climate Action Regional Office to establish reasons and develop solutions.</p> <p>Where proportion of population shows increase in private car use above the latest CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</p> |  |
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| <p>C2 – Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change.</p> | <p>Provide for increased use of public transport.</p> <p>Increase number of cycle lanes and pedestrian routes in the plan area.</p> <p>Establish incentives/increase no. of permissions for renewable energy projects.</p> <p>Reduction of private vehicle usage compared to 2016 Census levels.</p> <p>An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means.</p> <p>Establishment of a decarbonising zone within the county.</p> <p>Achieve transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050.</p> <p>Contribute towards EU GHG emission targets and aggregate reduction in carbon dioxide (CO<sub>2</sub>)</p> | <p>% compliance with EPA emission limits for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter.</p> <p>% decrease in the number of journeys made by private fossil-fuel based car compared to 2016 CSO figures.</p> <p>% increase in the number of people reporting regular cycling/walking to school and work above 2016 CSO figures.</p> <p>No. of new rural bus services or routes.</p> <p>No. of buildings (public or private) with BER rating of B or more as a % of overall building stock.</p> <p>No of Decarbonization zones Identified and Implementation plan complete</p> <p>Number of Electric Vehicles registered in the county and No. EV Charge points in the county</p> <p>Use of public transport.</p> <p>Provision of cycle lanes and walking routes.</p> | <p>As above for C1</p> | <p>CCC – Annual as new cycle strategy and/or Green Infrastructure is published.</p> <p>CSO – Annual as figures/reports based on 2022 census become available.</p> <p>CCC – No and type of planning applications in relation to low carbon residential housing and wind turbines and/or commencement of construction of such on an annual basis.</p> <p>CCC Forward Planning section review of CSO figures in relation to car journeys and mode of transport</p> <p>CCC review of SEAI figures.</p> <p>CCC Forward Planning, Environmental section, Limerick Clare Energy Agency and Climate Action Regional Office.</p> |
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|  | <p>emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors.</p> <p>Increase the production of energy from renewable energy resources</p> | <p>No. of grants given for insulation works; energy efficiency of new buildings – energy rating figures.</p> <p>No. of planning applications for residential houses with low carbon footprint.</p> <p>No. Of wind turbines permitted which may contribute to mitigation of, and adaptation to Climate Change.</p> <p>Location of permitted wind farms within areas of the greatest wind energy resource in County Clare as depicted through the SEAI Wind Atlas. <a href="http://maps.seai.ie/wind/">http://maps.seai.ie/wind/</a></p> <p>No. of planning applications for renewable energy.</p> <p>No of IPC licences relating to renewable energy.</p> <p>Quantity of energy being sold to the Grid in County Clare.</p> |                     |  |
| <b>Material Assets – Transport</b>   |   |  |                     |  |
| T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, and shops. | <p>An increase in provision of cycle lanes and pedestrian routes.</p> <p>An increase in population travelling to work and school by public transport or non-motorised transport.</p>                                    | <p>No. of cycle lanes and pedestrian routes provided in the plan area.</p> <p>Percentage of the population within the plan area travelling to work or school by public transport or non-mechanical means.</p>  | See C1 and C2 above | <p>CCC – Achievement of Clare County Council Active Travel under the Departments Smarter Travel Scheme annually.</p> <p>CSO – every 6 years through census information.</p> <p>NRA</p> |

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|  | A reduction in the distance travelled to work or school by the population of the plan area.  | Average distance travelled to work or school by the population of the plan area.<br>Number of private cars on road as a percentage of Annual Average Daily Traffic (AADT).  |   |   |
| T2 - Provide for ease of movement for all road users and to promote development patterns that protect and enhance road safety. | Reduce the number of private vehicles on the road.<br>Increase in public transport.<br>Increase cycle and walking modes of transport.<br>Integrated traffic management plan for the plan area. | No. of private cars on the road as a percentage of AADT.<br>No. of applications for the Bike to Work Scheme.<br>Traffic survey and pedestrian surveys undertaken in the preparation of a traffic management plan.   | Where a static or downward trend in sustainable modal uptake is identified, review LA awareness campaigns/initiatives to improve knowledge and awareness. | CCC on going  |
| <b>Material Assets – Waste</b>   |  |   |   |   |
| WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.                                 | Reduction in the quantities of waste sent to landfill.<br>Increase in the quantities of waste sent for recycling.<br>Increase in the number of bring banks in the plan area.                   | Quantity/% of household waste sent to landfill when compared with 2022 figures.<br>% of waste used for energy production when compared with 2022 figures<br>%/Volume of construction and demolition waste recycled. | Where negative trends are identified, CCC to review awareness campaigns/initiatives in relation to  | CCC – Environment Department, Limerick Clare Energy Agency and Forward Planning statistics and reports.<br>Southern Waste Region – Annually through Statistical Indicators Report and Waste Management Plan Annual Report |

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|  | Compliance with the Southern Region Waste Management Plan   | Quantity/% of household waste sent to recycling when compared to 2022 figures.<br><br>The number of bring banks provided for in the plan area.<br><br>Compliance with the Southern Region Waste Management Plan. | waste management issues to improve knowledge and awareness. |   |
| <b>Material Assets – Water Supply</b>  |   |  |   |   |
| WS1 - To ensure adequate and clean drinking water supplies.  | Upgrade existing water treatment plants within the plan area.   | Number of upgrades undertaken within the plan area.<br><br>Number of households served by public water supplies.   | TBC   | Irish Water – Achievement of Water Services Strategic Plan objectives<br><br>Irish Water – The implementation of the Lead Mitigation Plan over the lifetime of the County Development Plan to achieve safe, clean drinking water for all.<br><br>Irish Water – The implementation of the National Water Resources Plan to balance the supply and demand.<br><br>The implementation and/or achievement of these Plans can be monitored by the Forward Planning Team in consultation with water services in Clare County and Irish Water. |
| WS2 - Improve efficiency in distribution of potable water to the population through pipe rehabilitation and to promote water conservation and sustainable water usage for long-term protection of available water resources. | Reduce the amount of water usage.<br><br>Reduce the amount of water lost through pipe leakage (currently 65%) through the pipe rehabilitation.<br><br>Increase usage of water collected through water harvesting. | Water meter readings (Reintroduction of water charges based on conservation).<br><br>Sale of water harvesting butts.<br><br>Retrofitting of rainwater harvesting units.  | TBC   | Irish Water – reduction in household costs for water charges based on conservation (This is dependent on water charges being reintroduced; meter readings are still on-going in the absence of charges)<br><br>Irish Water – The implementation of the Lead Mitigation Plan over the lifetime of the County Development Plan to achieve safe, clean drinking water for all.<br><br>Replacement of Asbestos piping across the county.<br><br>CCC Forward Planning in conjunction with Water Services and Irish Water.                    |

| Material Assets – Wastewater   |  |   |  |   |
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| <p>WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meets EU requirements prior to discharge.</p> | <p>Upgrade existing wastewater treatment plant infrastructure identified within the plan as being insufficient, based on existing and forecasted population demands to meet EU requirements.</p> | <p>Upgraded Wastewater Treatment Plants within the plan area.</p> <p>Number of plants exceeding the Emission Limit Values (ELVs) for Wastewater Treatment Discharge licence set by the EPA.</p> | <p>Where planning applications in the settlement strategy are rejected due to insufficient capacity in the Wastewater treatment Plant (WwTP) or failure of the WwTP to meet Emission Limit Values (ELV), CCC will work with the Regional Assembly, EPA and Irish Water to coordinate a response to achieve the necessary capacity.</p> | <p>Irish Water -Achievement of Water Services Strategic Plan objectives.</p> <p>CCC Forward Planning Team – granting of permission conditioned based on a future WWTP upgrade.</p> <p>CCC Forward Planning Team – refusal of permission as no upgrade to WWTP due to take place or due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values.</p> |

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| <p>WW2 - Reduce the dependency on individual proprietary wastewater treatment facilities and ensure the highest standards possible in existing and future wastewater treatment facilities.</p>                        | <p>Testing of individual proprietary wastewater treatment facilities in line with EU/National guidance.</p> <p>Sustainable alternative individual proprietary WWT facilities.</p> <p>Measures to promote encourage and incentivise a change from traditional WWTS to alternative sustainable systems.</p>  | <p>No. planning applications for single houses within the plan area, served by individual WWT facility.</p> <p>Testing of individual WWT facilities.</p> <p>Types/usage/percentage using sustainable methods of WWT.</p>   |   | <p>CCC – Forward Planning Team – No. of applications which are approved and contain alternatives to on-site systems such as wetland systems.</p>   |
| <b>Material Assets – Renewable Energy</b>   |  |  |   |  |
| <p>RE1 - Reduce waste of energy, promote use of renewable energy sources and support energy conservation initiatives across all sectors including the development of low carbon business practices and buildings.</p> | <p>Increase in renewable energy developments.</p> <p>Achieve transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050.</p> <p>Contribute towards EU GHG emission targets and aggregate reduction in carbon dioxide (CO<sub>2</sub>) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity</p> | <p>No. of renewable energy developments granted planning permission.</p> <p>Establishment of R&amp;D projects (one or more).</p> <p>Meet or exceed County contributions to national renewable energy targets.</p> <p>Meet or exceed County contributions to national energy efficiency/conservation targets.</p> <p>In line with the Wind Energy Strategy (Volume 5 of the Development Plan) achieve the minimum target of 550MW from wind energy by 2017.</p> | <p>Where targets are not achieved, the Council will liaise with the Regional Assembly, the EPA and the Climate Action Regional Office to establish reasons and develop solutions.</p> | <p>CCC – Forward Planning Team – No. of renewable energy applications which are approved– new solar farms, windfarms (onshore and offshore) or other renewable energy developments granted.</p> <p>LCEA, Clare CoCo, SIFP – number of new R&amp;D projects within the Plan area e.g., testing of tidal energy devices.</p> <p>Southern Regional Assembly.</p> <p>% Landcover in comparison with 2018 Corine figures.</p> |



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|  | <p>generation, built environment and transport sectors.</p> <p>Ensure that waste arising from renewable energy facilities are recycled where possible.</p> <p>Implement the Council's Climate Change Adaption Strategy 2019-2024</p> <p>Achieve Targets set out in the RES</p> | <p>The number of hectares of land that has been converted to use for Bio energy production utilising Miscanthus; Oilseed Rape; Reed Canary Grass or SRC Willow. (Suitable lands have been identified through the SEAI Bioenergy Map <a href="http://maps.seai.ie/bioenergy/">http://maps.seai.ie/bioenergy/</a>).</p> <p>No. of planning applications for renewable energy.</p> <p>No of IPPC licences relating to renewable energy.</p> <p>Quantity of energy being sold to the Grid in County Clare.</p> <p>Increase in volumes of non-recyclable waste from renewable facilities</p> <p>Tracking the change of energy and fuel mix at household level</p> <p>Targets in RES<br/>Consents, MW delivered, consented</p> <p>No of communities designated as 'Sustainable Energy Communities'</p> | <p>Where proportion of population shows increase in private car use above the most recent CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response</p> | <p>Annual monitoring and updating of the Council's Climate Change Adaption Strategy 2019-2024 with a review and revision every five years / Planning Consent and Design Standards / Monitoring and updating of Ennis 2040 and key aims.</p> <p>SEAI Data, Limerick Clare Energy Agency Data, CARO office.</p> |
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|  |  | As per C1 and C2 above.   |  |   |
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| <b>Cultural Heritage</b>   |  |   |  |   |
| CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.). | No permitted development which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features. | No. of developments permitted during the lifetime of the plan which will result in the loss or partial loss of protected structures or sites of archaeological status.<br><br>No. of additions to the list of Protected Structures.<br><br>No. of additions to the list of Architectural Conservation Areas.<br><br>Development of cultural heritage areas for amenity resources. |  | Forward Planning and Development Management sections of Clare County Council through the SEA Officer. |
| CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.   | To increase the use of local placenames within the plan area.  | No. Of applications which are referred to the Conservation and Heritage Officers.   |  | Forward Planning and Development Management sections of Clare County Council through the SEA Officer. |
| CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build  | To increase the number of uninhabited and derelict structures that are restored opposed to demolition.   | No. planning applications for restoration/re-use of vacant and derelict structures.<br><br>No. planning applications for demolition and redevelopment of vacant and derelict sites.   |  | Forward Planning and Development Management sections of Clare County Council through the SEA Officer. |

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| (to promote sustainability and reduce landfill).   |  |   |  |   |
| <b>Landscape</b>   |  |   |  |   |
| L1 – Conserve, protect and enhance valued natural, cultural and built landscapes, views of local value and features including those of geological and aesthetic value. | Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan. | <p>No. of developments permitted and their impacts on cultural/historic landscapes.</p> <p>No. of developments located within Scenic Route or no degradation of areas designated as Heritage Landscapes (Locations in text and on maps).</p> <p>No. of developments located within a designated scenic view or route or high landscape area in County Clare that disrupt views (based on the LCA).</p> <p>Development and application of framework in relation to the application of LCA and their contribution to SEA.</p> |  | Forward Planning and Development Management sections of Clare County Council through the SEA Officer. Undertake a GIS analysis of the various landscape types across the county to establish the no of developments permitted within these designations and whether they are since perceived to be causing an impact. |
| L2 - Maintain and enhance landscape quality within the plan area by minimising visual impacts through appropriate design, assessment and siting.                       | <p>No significant visual impact from development.</p> <p>Ensure no significant disruption of high landscape values.</p>          | <p>No. of developments located within a high landscape area that disrupt views (based on LCA):</p> <p>Loss of vistas/views.</p> <p>Loss of trees.</p> <p>Loss of amenity woodland.</p> <p>No of large scale developments permitted.</p>   |  | Forward Planning and development Management in conjunction with the SEA Officer. GIS analysis to establish if any developments have taken place within a high landscape area and if so the degree to which it is affected.  |

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|  | <p>No damage to designated landscapes or seascapes as a result of the Renewable Energy Strategy.</p> | <p>The number of renewable energy facilities sited in landscapes/seascapes with a high sensitivity to change.</p> |  |  |
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## **Chapter Eleven - SEA Recommendations Summary**

Throughout the Environmental Report recommendations have been made which, by the iterative nature of the process, have been fed into the plan-making process. A summary of the SEA recommendations set out under the various chapters of this report is set out in Table 11.1 indicating in the second column as to their inclusion within the County Development Plan. These recommendations are in addition to the proposed mitigation included on specific plan objectives and land-use zoning in chapters 8 and 9.



Table 11.1 SEA Recommendation Summary Table

| General SEA Recommendations   | Inclusion in the Plan  |
|---|--|
| Include within the Plan an inventory of SEA recommendations and how they have been incorporated into the Plan   | No. This is done within the SEA ER   |
| Refer to Clare County Council’s responsibilities and obligations in accordance with all national and EU environmental legislation. It is a matter for Clare County Council, to ensure that, when undertaking and fulfilling their statutory responsibilities, they are at all times compliant with the requirements of national and EU environmental legislation. | Yes.   |
| Make available a copy of the SEA Statement for public inspection at the Local Authority offices, local authority website and also notify any Environmental Authorities consulted during the SEA process.  | This will be done following adoption of the Development Plan.  |
| Chapter 2 SEA Methodology   | Inclusion in the Plan  |
| <p>The opportunity to integrate sustainability and environmental protection into the objectives in a positive manner, from an early stage should be undertaken.</p> <p>The objectives in the Plan must be able to be monitored in a meaningful way with the results being measured in terms of how effective the Plan has been.</p>                               | <p>The objectives were developed by the Forward Planning team in tandem with the Environmental Assessment team of Clare County Council to ensure sustainability and environmental protection were in-built to them from the on-set and subsequently assessed by SEA, AA, SFRA teams for compliance.</p> <p>Having regard to best practice, the County Development Plan sets out a formal framework for the implementation, monitoring and evaluation of the Objectives of the Plan and in measuring outcomes. The framework incorporates a blended approach to the assessment of the Objectives incorporating quantitative targets such as no. of planning application/housing completions etc. as well as a qualitative approach which will assess the value and quality of planning outcomes over the course</p> |

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|   | <p>of successive County Development Plans.</p> <p>The implementation and monitoring framework for the Plan is set out in Section 20.4 of Volume 1 of the CDP.</p> <p>The framework reflects the Vision for the County Development Plan and the Strategic Development Plan Principles that support its delivery. The Vision and Strategic Development Plan Principles are broadly aligned with the Regional Strategic Outcomes of the RSES, the National Strategic Outcomes of the NPF, and the United Nations Sustainable Development Goals.</p> |
| Refer to Clare County Council’s responsibilities and obligations in accordance with all national and EU environmental legislation. It is a matter for Clare County Council, to ensure that, when undertaking and fulfilling their statutory responsibilities, they are at all times compliant with the requirements of national and EU environmental legislation.   | Yes.   |
| Make available a copy of the SEA Statement for public inspection at the Local Authority offices, local authority website and also notify any Environmental Authorities consulted during the SEA process.  | This will be done following adoption of the Development Plan.  |
| <b>Chapter 3 Clare County Development Plan 2023-2029</b>  | <b>Inclusion in the Plan</b>   |
| <p><b>The Vision for County Clare</b></p> <p>The vision for County Clare in the current County Development Plan needs to take on board the 3 crises which our county faces and address them in a meaningful way; biodiversity loss, climate change and the global pandemic with sustainability forming a central role.</p> <p>The suggested wording which is included in submissions 064 &amp; 090 to the Issues Paper should be carefully considered in this regard.</p> | <p>The Vision for County Clare evolved through a process of reviewing and taking into consideration the submissions received together with input from the Planning and Environmental teams. The final Vision reflects the key challenges which our county faces over the next 6 years.</p>   |
| <b>Goals</b>  |  |

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| <p>The various chapters of the Clare County Development Plan 2023-2029 set out the planning policy response of Clare County Council to achieve the Vision set out above by 2029. Each chapter identifies a key goal supported by strategic aims and objectives. It is through the delivery of these goals that this common vision for County Clare will be achieved. The key goals need to reflect the change in Vision for the County and become embedded in a positive way with the key principles of sustainability.</p> | <p>The Goals have been amended to reflect the key changes to the Vision.</p>   |
| <p><b>Chapter 4 - Relationship with other Plans and Policies</b></p>  | <p><b>Inclusion in the Plan</b></p>  |
| <p>The Plan should be set in the context of the planning hierarchy and a clear statement should be provided as to the function of the Plan and what the Plan can and cannot do.</p>   | <p>Yes – This is clearly outlined in Chapter 1 with respect to the legislative requirement of the CDP.</p>   |
| <p>Where other Plans/Programmes/Strategies are responsible for implementing relevant policies / objectives / initiatives, these should be acknowledged and fully referenced in the Plan.</p>  | <p>Yes- this is done through the Plan in terms of the introduction to each chapter and the guiding principles for implementation.</p>  |
| <p>Under the EIA and Planning and Development Regulations certain projects that may arise during the implementation of the Plan may require an Environmental Impact Assessment and the preparation of an Environmental Impact Assessment Report. There are also requirements regarding EIA for sub-threshold development.</p>   | <p>The requirement for potentially having to undertake EIA Screening and/or the preparation of an EIAR is outlined through the inclusion of CDP Objective 9.4 relating to Tourism Developments, 9.8 relating to Activity and Adventure Tourism, Objective 15.10 relating to Environmental Impact Assessment and the technical guidance contained in Volume 3 with respect to individual zonings.</p> |
| <p>Projects would also be required to be screened with respect to the requirement for Appropriate Assessment as required by Article 6 (3) of the Habitats Directive and/or the preparation of a Natura Impact Statement (NIS) in line with Article 6(4)</p>   | <p>The requirement for potentially having to undertake Screening for Appropriate Assessment and/or the preparation of an NIS is outlined through the inclusion of CDP Objective 15.3 and the technical guidance contained in Volume 3 with respect to individual zonings.</p>  |
| <p>Following the review of relevant national and regional policies, plans and programmes as part of the Strategic Environmental Assessment, the Clare County Development Plan must ensure that the objectives set out in the CDP meet the requirements of all relevant plans and policies as outlined in <b>Table 4.1</b> of the SEA Environmental Report.</p>  | <p>This has been achieved through the assessment of all the Plan objectives contained not only within the Written Statement but also contained within all other Volumes (i.e., Volumes 1 – 9)</p>  |

| Chapter 5 Environmental Baseline<br><b>SEA Recommendations – Biodiversity, Flora and Fauna</b>  | Inclusion in the Plan   |
|---|---|
| Biodiversity affects and can be affected by different facets of development and the County Development Plan must recognise and achieve its integration within the various components of the Plan and not consider it in isolation.  | Yes.  |
| Green Infrastructure should be incorporated as a component of the County Development Plan in its own right, recognising and acknowledging its inter-relationship with such things as social inclusion, sport, recreation, amenity, quality of life, sustainable transport and climate change. Green infrastructure requires clear definition in the Plan, emphasising that at the core of green infrastructure is biodiversity. Without biodiversity there would be no green infrastructure upon which to create and develop networks which present opportunities as referred to above, reinforcing the importance of the protection of biodiversity. The central theme of biodiversity in the context of green infrastructure should not be diluted or lost. | Additionally, Section 2.8.3 Green Infrastructure and Flood Management look at the further important and linkages with green infrastructure in these areas, Section 5.2.14 Green Infrastructure within Residential Development, Section 9.2.9 Activity and Adventure Tourism, Section 11.2.2 Smarter Travel and Sustainable Mobility, Chapter 15 and specifically Section 15.3 Green Infrastructure and Climate Change.  |
| Biodiversity and climate change are deeply inter-connected. Climate change poses one of the biggest threats to biodiversity and the Plan needs to acknowledge and recognise that climate change is a phenomenon that is on-going and as such the baseline information is going to change over time and the Plan needs to be able to provide for these changes by incorporating resilience into the Plan through adaptation and mitigation measures.   | Building Climate change resilience into the Plan was central to both the zoning of lands and the development of objectives for economic growth. All land use zonings were assessed from a flood risk and environmental perspective to ensure resilience and adaptation were accounted for throughout. This led to changes to the zoning proposed and the inclusion of significant areas of buffer zone which will be protected from future development due to their location adjacent to river channels, the presence of important wildlife |

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|   | corridors or their importance for biodiversity.   |
| Include an objective in the Plan in relation to the carrying out of a tree survey for the Plan area to inform future developments, townscape works and planting and replanting proposals.   | Yes, this has been included as per objective 15.19.   |
| Include an objective in the Plan which protects and conserves the specific designated sites within the Plan area.   | Yes, this has been included as per objective 3.1.   |
| The promotion of any designated sites for educational, recreational/leisure use it must be an objective that any such activity should not result in a negative impact on water quality and protected habitats and species. The necessary surveys will be required to support this.            | Yes.  |
| In an effort to protect and extend wildlife corridors through appropriate boundary treatment, landscaping schemes and planting as part of developments, the Plan should seek to extend the network of wildlife areas within the Plan area.  | Yes, this has been included as per section 15.2.10 Promoting and Protecting Biodiversity and Wildlife Corridors and objective 15.12 |
| The inter-relationship between green infrastructure and recreation should be acknowledged and an objective included to ensure recreational facilities are integrated into a green infrastructure network.   | Yes, this has been included as per objective 15.13  |
| Maintain existing and promote additional tree planting and undertake a tree survey to quantify any losses/gains.  | Yes, this has been included as per objective 15.20  |
| Control of alien invasive species and awareness of the methods by which these can be transferred and spread should be incorporated into the plan. Maintaining an up-to-date register and mapping of alien invasive species within the Plan area should form part of environmental monitoring. | Yes, this has been included as per objective 15.29  |
| To ensure all proposed development within the vicinity of the Slieve Aughty Mountains SPA take Merlin into consideration and assess potential impacts on breeding pairs.  | The protection of Merlin was taken into consideration in the assessment of landuse zonings from an AA and                           |

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|  | SEA perspective. Mitigation Measures have been included to ensure consideration is given to the Slieve Aughty Mountains SPA at a development management level.   |
| Turloughs are a priority habitat for which grazing is integral to the ecology and it is important that appropriate grazing levels are maintained. Within Clare there a total of six SACs in which Turloughs are a Qualifying Interest and they are considered a priority habitat. The CDP should promote and support appropriate grazing regimes in these important habitats which serve an important function in terms of flood storage areas and biodiversity.   | This is achieved through the inclusion of CDP Objective 15.16 relating to Inland Waterways and River Corridors which address the protection of Turloughs and Wetlands in particular.   |
| Given we are currently in a Climate and Biodiversity crisis the importance of protecting riparian buffer spaces or zones is critical for this planning cycle. Clare County Council need to ensure sufficient space is set aside for nature to combat the effects of climate change and to provide space for biodiversity. The space needs to be left clear of any type of development including the type which is perhaps permitted in “Open Space” zoning such as play facilities.  | Through a co-ordinated effort between the SEA/AA Environmental team together with the Forward Planning team a total of 511.1 hectares has been zoned as Buffer space which will provide for Climate Change and Biodiversity in line with the Climate Change Action Plan and the National Biodiversity Action Plan. |
| <b>SEA Recommendations – Population, Human Health and Quality of Life</b>  |  |
| A definition for social inclusion should be included within the Plan, which should read as “Social inclusion refers to a series of positive actions to achieve equality of access to services and goods, to assist all individuals to participation in their community and society, to encourage the contribution of all persons to social and cultural life and to be aware of and to challenge all forms of discrimination. Social inclusion seeks the creation of an inclusive and fair society, combating inequality, social exclusion and poverty”. | <b>Inclusion in the Plan</b><br>While this definition has not been included in the Plan, Social Inclusion has been addressed and included as follows;<br><br>Goal X & IX, CDP Objectives 10.2, 10.5 and 10.10. In addition, social inclusion is addressed in Sections 8.2.7 and 10.5.                              |
| Radon is the leading cause of lung cancer after smoking in Ireland.<br><br>The plan should encourage households to carry out testing in particular where they are located within an area identified as being above the reference level as per Figure 5.7.6. Any applications for housing should be made aware at a pre-planning stage of their location in terms of radon levels.  | This is addressed through the application of CDP Objective 5.17 with respect to Radon.   |



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| <p>An integrated approach to the future growth of the Plan area, which incorporates resilience to climate change through the implementation of the necessary mitigation and adaptation measures, needs to be adopted to ensure that it provides for a local population that can grow in a safe and healthy environment with the opportunities to live, work and from a human health perspective recreate within reasonable distance and have access to community needs and services. In doing so to minimise impacts on human health, maintain and improve quality of life through the protection of all facets of the environment, for example in provision of adequate infrastructure, flood management, sustainable transport, provision of necessary health services, building design etc.</p> | <p>A fully integrated approach has been adopted across the Plan through the greater inclusion of areas zoned as buffer space in response to Climate Change. Approximately 511.1 hectares have been zoned as buffer space in the new CDP 2023-2029. This is different to Open Space in that it is to specifically address the response to the Climate and Biodiversity crises and doesn't permit any type of development within this area. It is to allow for climate resilience and climate adaptation where the zoning is incorporated along the riparian zone of rivers and streams. In other areas it is to specifically address the protection of ecological corridors etc.</p> |
| <p>Noise is the second greatest environmental cause of health problems, after air quality.</p> <p>Where residential developments are to be located near or adjacent to a major road, any scheme should incorporate acoustical planning in the design, e.g. an integrated buffer to allow for sound minimisation to be provided through planting and necessary noise minimising landscaping measures and traffic calming measures.</p>  | <p>This is addressed through the inclusion of CDP Objective 11.40.</p>  |
| <p>Ireland's green spaces (parks, woods, countryside) and blue spaces (rivers, lakes and coastlines) are valuable natural assets with clear health benefits. We need to ensure protection of green and blue spaces and to encourage the provision of access to both for all members of society in order to ensure human health is not negatively impacted.</p>   | <p>This is addressed through the inclusion of CDP Objectives 15.12, 15.13, 15.14, 15.16 &amp; 15.30 in addition to Section 5.2.14 Green Infrastructure in Residential Development and Development Management Guidelines on OpenSpace in the CDP.</p>  |
| <p><b>SEA Recommendations – Soil and Geology</b></p>   |   |
| <p>Register and mapping of contaminated sites, including old petrol station sites to co-incide with the Plan objective for development of brown field sites to ensure due diligence, particularly in relation to soil and groundwater, on sites prior to development.</p>  | <p><b>Inclusion in the Plan</b></p> <p>A specific objective has been included as CDP Objective 15.11.</p>   |

| SEA Recommendations – Air and Climate   | Inclusion in the Plan   |
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| Climate Change must be defined within the County Development Plan and embraced as a central component to the Plan reflecting its importance and need for integration into the various components of the Plan to ensure resilience to future climate change. Adaptation should become embedded in the CDP and how the council operates as a while with Mitigation clearly defined.                                     | Yes. This is achieved through the inclusion of a specific chapter on Climate Action (Chapter 2) together with linkages and integration across all other chapters. |
| <p>Include an objective within the Plan to commit to the implementation of the Local Authority Climate Change Adaptation Strategy 2019-2024.</p> <p>Achieve a ‘just transition’ particularly for communities that may be economically disadvantaged by decarbonising projects</p>   | This is achieved through the inclusion of CDP Objective 2.2 relating to Climate Change Mitigation, Adaptation and Resilience                                      |
| The Flood Risk Assessment is undertaken taking account of the existing use of benefitting lands. Proposed land-use zonings should take this into account, by providing for future development which would be similar or less vulnerable in nature to that of the existing use. The justification test should be undertaken when considering future land-use zonings for designated Flood Zone areas in the Plan area. | Yes.  |
| Continue to support the work of the Climate Action Regional Offices (CARO).   | This is achieved through the inclusion of Section 2.6 Climate Adaptation Strategy.  |
| The Plan should include an objective to promote and encourage combined heat and power and district heating.   | This is achieved through the inclusion of objective in the plan as Objective 2.18   |
| The Plan should include an objective which seeks to encourage and facilitate the development of low carbon/passive housing by requiring development proposals to demonstrate details of how it adopts energy efficiency and environmental sustainability.   | Yes. This is achieved through the inclusion of CDP Objectives 18.5 & 18.6.  |
| The Plan should incorporate and promote sustainable transport including supporting and promoting increased provision of public transport, particularly in relation to a local bus service, to serve the Plan area.  | Yes.  |
| The Plan should acknowledge the close inter-relationship between a low-carbon community with green infrastructure by incorporating cross-referencing between and appropriate objectives in this regard e.g promoting the implementation of a green  | Yes.  |

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| <p>infrastructure strategy will encourage a shift away from the use of private transport to more sustainable modes of walking, cycling etc.</p>  |  |
| <p>Air</p> <p>Uses within neighbourhood centres should be considered in relation to the odours and noise generated by certain commercial activities. Some uses cause localised problems in this regard, for example significant problems occur in relation to dry cleaners (air pollution) and late-night takeaways (air pollution and noise from late night customers) and general servicing with late night deliveries causing local disturbance. Mitigation measures – physical buffer between neighbourhood centre and residential areas (e.g., through provision of open space/playing fields etc). Dry cleaners that are to be located in a neighbourhood centre should consist of a collection point with the cleaning process being undertaken off-site in a location suitable to such uses, for example an industrial estate.</p> <p>Facilities where the cleaning process is undertaken must be registered, assessed, and have a certificate of compliance with a solvent management plan in place for dry cleaners. Measures should be put in place in accordance with the EPA “Best Practice Guidelines for Dry Cleaners” and “Best Practice Guidelines for Vehicle Refurbishment” to minimise the risk of air contamination from these sources.</p> | <p>This is achieved through the inclusion of CDP Objective 11.41.</p>  |
| <p>The protection of trees within the Plan area, as well as the requirement for additional planting to accompany proposals for development in recognition of their multi-functional role they play within the environment i.e. carbon sink, noise buffer, biodiversity and amenity value.</p>  | <p>The importance of trees within the county is highlighted throughout the Plan and through the inclusion of CDP Objective 15.19.</p>  |
| <p>Prepare an integrated sustainable transport plan, including mobility and permeability within the town centre, neighbourhoods and the linkages between them, including green infrastructure.</p>   | <p>This is incorporated throughout the Plan as reference is made to sustainable mobility, including walking, cycling and green infrastructure strategies and through the inclusion of CDP Objectives 11.3 relating to the commitment to implement the Limerick Shannon Draft Metropolitan Area Transport Strategy and 11.14 relating to Strategic Regional Roads</p> |

| SEA Recommendations – Water  | Inclusion in the Plan   |
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| <p>The provision of a good quality water supply is a critical requirement for attracting investment in the county. The volume of water lost through leakages in pipe infrastructure is not only a local or county level issue but a county wide issue. While a significant pipe rehabilitation programme is underway through Irish Water’s National Leakage reduction Programme, further education and information on water conservation and usage for water users is needed.</p> <p>Water conservation should be a priority in increasing water supply.</p> | <p>Yes, through the inclusion of CDP Objective 11.28 &amp; 11.30.</p>   |
| <p>Protection of European sites should be a priority when selecting sites for drinking water abstraction.</p>  | <p>Yes, through the inclusion of CDP Objective 11.28 and specifically part C of this objective.</p>   |
| <p>Issues in relation to climate change and the impacts on water supply and water quality need to be incorporated into the Plan. Although uncertain in terms of how climate change will fully manifest itself, the observed changes and anticipated future change in precipitation patterns and air temperatures e.g. water conservation through on-going pipe rehabilitation, promoting use of grey water and rainwater harvesting.</p>   | <p>The interrelationship between climate change and the impacts on water quality and supply are inherent throughout the Plan.</p>                     |
| <p>The protection of our Bathing Waters within the County should be prioritised.</p>   | <p>This is achieved through the inclusion of CDP Objective 13.14 relating to the implementation of the Bathing Water Directive.</p>                   |
| <p>Register and mapping of contaminated sites.</p>   | <p>This is included as an objective in the Plan through the requirement to undertake due diligence and remedial works for all contaminated lands.</p> |
| <p>Register and mapping of oil leakages.</p>   | <p>This is not included as an objective in the Plan but can form part of a long-term monitoring initiative.</p>                                       |
| <p>Promote the need for compliance of dry cleaners and vehicle refinishing facilities with the 2014 Regulations and to ensure a best practice approach in relation to operation and waste disposal to remove the risk of discharge and subsequent contamination of surface and/or ground waters.</p>   | <p>This is not included in the Plan, however monitoring compliance can form part of a long-term monitoring initiative</p>                             |
| <p>The measures required for protection of water quality need to be seen as an integrated approach incorporated into the numerous aspects of strategic planning and land use zoning.</p>   | <p>This is strongly achieved across a broad range of objectives within the CDP.</p>   |

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| Flood Plains as natural flood storage areas should be protected from development.  | Yes, incorporate through the zoning analysis in Volume 3 and the associated SFRA.   |
| <b>SEA Recommendations – Material Assets</b>   | <b>Inclusion in the Plan</b>  |
| <p><b>Transportation</b></p> <p>Promote sustainable travel by providing for the development of greenways/walkways/cycleways, in conjunction with green and blue infrastructure, within the Plan area.</p> <p>To promote Nature Based Solutions within all new road schemes or upgrades to adapt to Climate Change.</p> <p>To reimagine our infrastructure needs and requirements in a way that it works as part of our public realm provides an amenity and benefit to human health all the while providing water retention measures in times of flood.</p> <p>To support the investigation of a sustainable solution to the flooding issue at Ballycar on the Limerick – Ennis Railway line in conjunction with the NTA and Iarnrod Eireann.</p> <p>To promote Shannon Airport as an International starting and finishing point for Cruise holidays in conjunction with Cruise Shannon Estuary.</p> | <p>The SEA recommendations relating to transportation are achieved through the inclusion of the following CDP Objectives.</p> <p>We respect to sustainable travel CDP Objective 9.3, 11.2 &amp; 11.9, Green Infrastructure CDP Objective 15.12, 15.13, 15.14, 15.16 &amp; 15.30, Nature Based Solutions CDP Objective 2.2 &amp; 2.6, CDP Objective 11.6 with respect to the rail network in addition text has been included to support the objectives as outlined in the Clare Tourism strategy pertaining to the cruise sector and the potential links with Shannon Airport.</p> |
| <b>SEA Recommendations – Cultural Heritage</b>   | <b>Inclusion in the Plan</b>  |

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| Include an objective in the plan which incorporates the importance of the specified ACAs within the Plan period.   | This is achieved through the inclusion of CDP Objective 16.5.  |
| <p>With respect to the Clare Heritage Plan 2017 and in conjunction with the actions required by the Clare Climate Change Adaptation Strategy a risk assessment of the Heritage and Cultural Assets in the county to assess the vulnerability and the risk to the historical environment from the impacts of climate change and to help build resilience to these important assets should be undertaken. This may be a desk-based GIS exercise utilizing the most up to date flood risk and future impact scenario mapping versus the available database of Heritage and Cultural Assets.</p> <p>Specifically with respect to the Clare Heritage Plan 2017 the following actions should be prioritized and promoted as part of the Clare County Development Plan 2023-2029.</p> <p><b>Biodiversity, Climate Change and Green Infrastructure Planning Actions</b></p> <p>Research sites of high cultural and nature conservation value along the Clare Coast to fully understand the implications of climate change and sea level rise and the potential approaches to mitigation, adaption and building resilience in these areas</p> <p><b>Built Heritage Recommendations in line with the Clare Heritage Plan.</b></p> <p>Further explore the heritage potential of County Clare’s maritime built heritage and opportunities for its conservation and restoration, particularly in light of sea level rise, coastal erosion and flooding.</p> | <p>This is covered through the inclusion of CDP Objective 16.7.</p> <p>Prioritization of the Clare Heritage Plan objectives is achieved through the inclusion of CDP Objective 15.1.</p> |
| <b>SEA Recommendations – Landscape</b>   | <b>Inclusion in the Plan</b>   |
| To ensure local landscape features are recorded and protected, as they are the ones most likely to be lost incrementally in the plan area.   | This has been achieved through the inclusion of CDP Objectives 15.12, 15.19 & 16.5.  |
| To record and protect important views within both the urban and rural areas of the Plan area.  | This has been achieved through the inclusion of CDP Objectives 14.7 (Scenic routes) and 14.6 (Seascapes)   |
| To include an objective to prepare guidance or criteria on visual impacts as part of the County Development Plan.  | An objective relating to this has not been included in the Plan.   |
| To survey and protect trees and areas of woodland within the Plan area as important landscape features and to identify potential new areas for creating woodland areas.  | This has been achieved through the inclusion of CDP Objective 15.19.   |
| To include the assessment and protection of Regional Seascape Character Areas as identified by the Marine Institute and shown in <b>Figure 5.3.12</b> of the SEA ER within the objectives of the CDP.  | This has been achieved through the inclusion of CDP Objective 14.6   |



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| Nature Based Solutions should be prioritised for consideration as part of all Flood Relief Schemes as a first priority in terms of protecting the landscape.   | This has been achieved through the inclusion of CDP Objective 2.2 & 2.6.            |
| Landscape (visual impacts, seascapes, sensitive views/vistas, scenic views) must all be given due consideration in the assessment of any Renewable Energy projects being proposed across the county. | This has been achieved through the inclusion of CDP Objectives 15.12, 15.19 & 16.5. |

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