STRATEGIC ENVIRONMENTAL ASSESSMENT
ENVIRONMENTAL REPORT

FOR

VARIATIONS
TO THE

NORTH TIPPERARY COUNTY DEVELOPMENT PLAN (AS VARIED)

AND THE

SOUTH TIPPERARY COUNTY DEVELOPMENT PLAN (AS VARIED)

- This report is intended to inform the SEAs that are being undertaken on the Variation (Settlement Plans) to the South Tipperary County Development Plan and the North Tipperary County Development Plan by Tipperary County Council -

for: **Tipperary County Council**

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Nenagh,

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List of Abbreviations

AA	Appropriate Assessment
ACA	Architectural Conservation Area
CFRAM	Catchment Flood Risk Assessment and Management
CSO	Central Statistics Office
DAHG	Department of Arts, Heritage and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DEHLG	Department of the Environment, Heritage and Local Government
DECLG	Department of the Environment, Community and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GSI	Geological Survey of Ireland
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NSS	National Spatial Strategy
OPW	Office of Public Works
RAL	Remedial Action List
RBD	River Basin District
RMP	Record of Monuments and Places
RPA	Register of Protected Areas
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
WFD	Water Framework Directive

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. AA is a focused and detailed impact assessment of the implications of a strategic action (such as a plan or programme) or project, alone and in combination with other strategic actions and projects, on the integrity of a European Site in view of its conservation objectives.

Biodiversity and Flora and Fauna

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.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th 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.

Environmental Vectors

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.

Mitigate

To make or become less severe or harsh.

Mitigation Measures

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.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 as amended to define a structure included by a local 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 local authority that the part of the structure to be altered is not protected.

Recorded Monument

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 former Department of the Environment, Heritage and Local Government (now Department of Arts, Heritage, Regional, Rural and the Gaeltacht) under Section 12 of the National Monuments (Amendment) Act, 1994.

Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with appropriate environmental authorities.

Strategic Environmental Assessment (SEA)

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.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Strategy and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Variations to the South Tipperary County Development Plan (as varied) and North Tipperary County Development Plan (as varied). It has been undertaken by CAAS Ltd. on behalf of Tipperary County Council.

The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the preparation of the Variations to both the North Tipperary County Development Plan and the South Tipperary County Development Plan under Sections 11 and 12 of the Planning and Development Act 2000 (as Amended). The SEA is carried out in order to contribute Planning and Development (Strategic Environmental Assessment) Regulations 2004 (Statutory Instrument Number (SI No. 436 of 2004) as amended. This report should be read in conjunction with the Variations.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before such decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment for individual projects, while *Strategic Environmental Assessment* or SEA is the term which has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme, in order to insure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

1.3 SEA Directive and its transposition into Irish Law

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including tourism.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011).

1.4 Implications for the Variations and the Council

The findings of the SEA are expressed in this Environmental Report, an earlier version of which has been updated to take account of both: recommendations contained in submissions; and changes that were made to the original Proposed Variations that were placed on public display. Members of Tipperary County Council have taken into account the findings of this report and other related SEA output during their consideration of the Variations and before its adoption. An SEA Statement summarising how environmental considerations have been

integrated into the Variations has been prepared at the end of the process.

Section 2 The Variations

2.1 Introduction

Variations have been prepared to both the North Tipperary County Development Plan 2010 (as varied) and the South Tipperary County Development Plan 2009 (as varied) as follows:

- Variation of the North Tipperary County Development Plan 2010 (as varied).
- Variation of the South Tipperary County Development Plan 2009 (as varied).

The Variations will facilitate the planned, integrated and sustainable development of the **individual towns and villages in Tipperary** so that growth can take place in a co-ordinated manner and to provide a **consistent zoning and development framework** within the County to ensure that the continued expansion of these communities is well managed.

The County Development Plan areas are illustrated below.

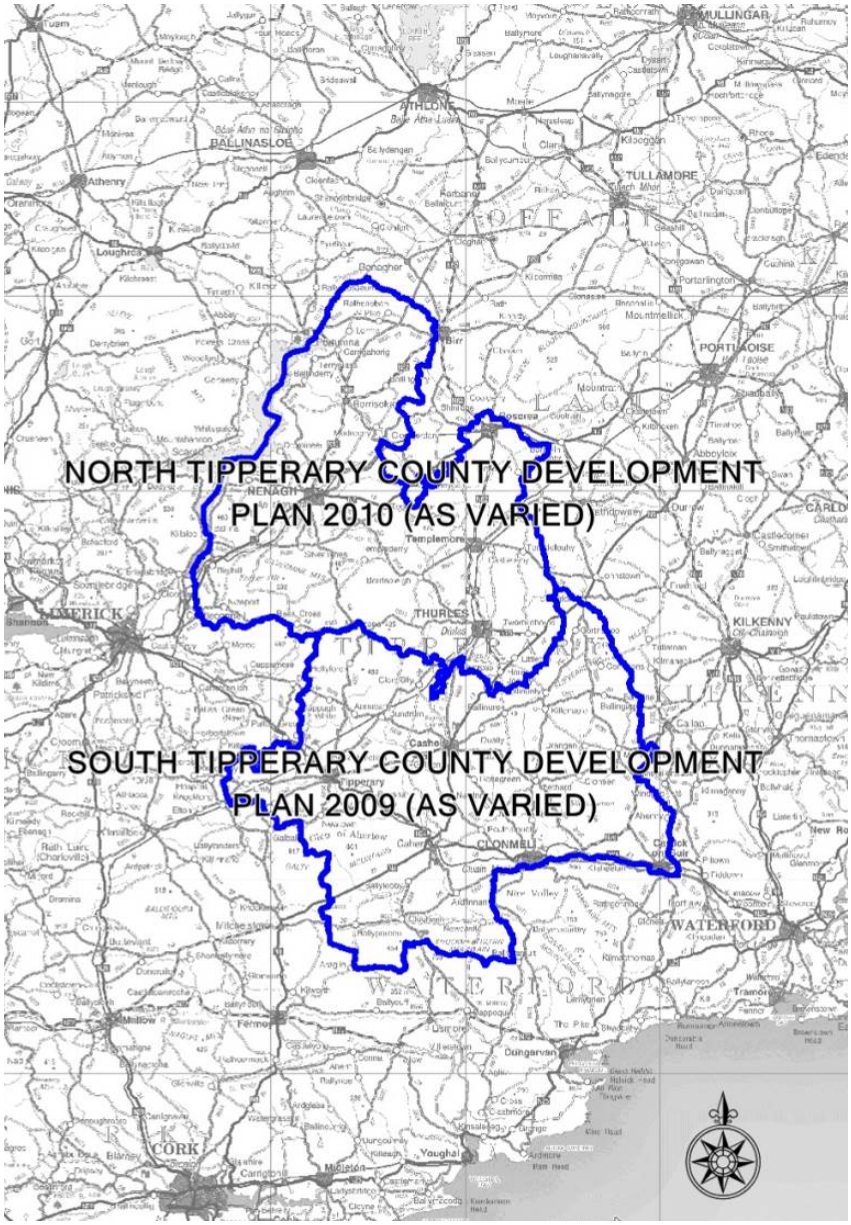

Figure 2.1 North and South Tipperary County Development Plan Areas

2.2 Variations (Settlement Plans)

In accordance with Section 11A(2)(b) of the Planning and Development Acts 2000 (as amended) as inserted by Section 28 of the Electoral Local Government and Planning and Development (Amendment) Act 2013, both of the Development Plans have been extended until such a time that a new amalgamated Tipperary County Development Plan is produced. Having consideration to the single administrative area of Tipperary, created as a result of the amalgamation of the two counties and the material differences in the existing North and South Tipperary County Development Plans, it has been decided to vary both of the existing Plans in order to make them consistent with each other and with all relevant and current, national and regional planning and environmental guidance and legislation. With this in mind Tipperary County Council varied the North and South Tipperary Development Plans in order to harmonise policies through a new 'written statement' (Variation No. 2). Another Variation (No. 3) was made to integrate a renewable energy strategy into the Plans. The next step in policy harmonisation is the preparation of new settlement plans through a Variation process to each of the Development Plans.

The North and South Tipperary County Development Plans provide for zoning and development objectives for each town and village across the County (with the exception of those covered by Town Plans or LAPs). There are 116 settlements that are part of the Variation, each with specific zonings and development objectives. The key objective of the Variations is to ensure that these zonings and/or objectives provide a development framework which is fit for purpose for the future development of the individual towns and villages which is cognisant of the needs of the residents while protecting and preserving the character, heritage and amenity of these communities and making a positive contribution and improvement to the population's quality of life.

2.3 Relationship with other relevant Plans and Programs

The Variations sit within a hierarchy of strategic actions such as plans and programmes and is subject to a number of high level environmental protection policies and objectives with which it must comply (including those detailed in Appendix I[1], Section 4, Section 5 and Section 9 of this report).

Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status.

The Variations relate to settlement plans for the lower three tiers of settlements within the County as follows (116 in total):

- Service Centres (31 settlements in total);
- Local Service Centres (37 settlements in total); and
- Settlement Nodes (48 settlements in total).

By providing specific development objectives for these various towns and villages, the Variations facilitate planned, integrated and sustainable development, having regard to the unique character of the settlements, so that growth can take place in a co-ordinated manner. The Variations provide a consistent land use zoning and development framework that will guide development and continue to promote vitality and growth of small towns and villages across the County.

[1] Appendix I is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each.

The Variations are consistent with the Core Strategies included in Chapters 2 and 3 of the County Development Plans as varied by variation No.2, as well as being consistent with other higher level planning and environmental objectives.

Figure 2.2 maps County Tipperary's Electoral Districts and Settlement Hierarchy. The Variations relate to the lower three tiers of settlements that are service centres, local service centres and settlement nodes.

Figure 2.2 Map of County Tipperary Electoral Districts and Settlement Hierarchy

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

Figure 3.1 provides an overview of the integrated Variation preparation, SEA and AA processes. The preparation of the Variations, SEA and AA have taken place concurrently and the findings of the SEA and AA have informed the Variations.

The Plan and associated SEA, AA and SFRA documents were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others.

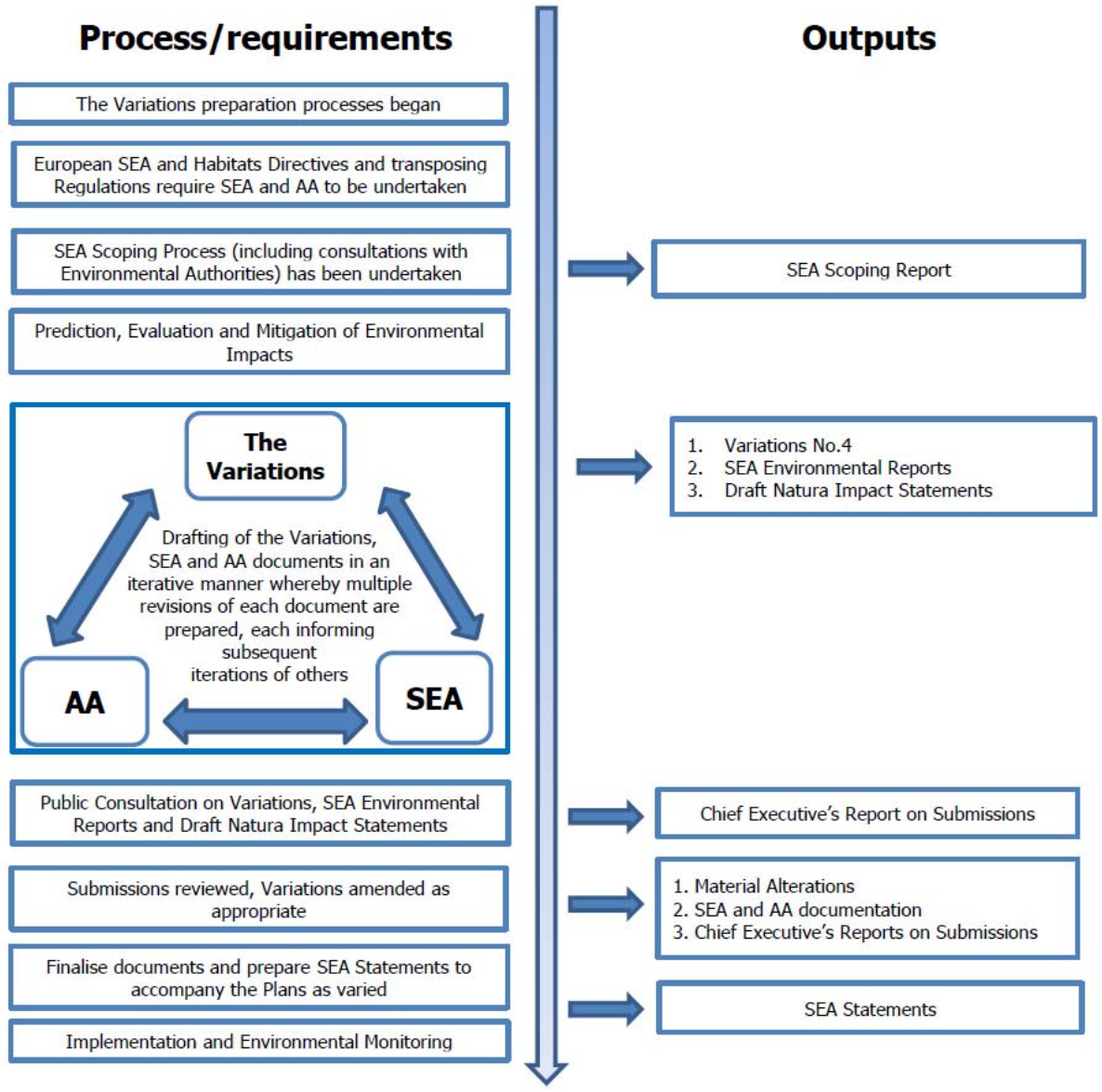

Figure 3.1 Overview of the Variations/SEA/AA Preparation Process and Outputs

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) have been undertaken alongside the preparation of the Variations.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The emerging AA conclusion is that the Variations will not affect the integrity of the Natura 2000 network[2].

The preparation of the Variations, SEA and AA has taken place concurrently and the findings of the AA have informed both the Variations and the SEA. All recommendations made by the AA were integrated into the Variations.

3.2.2 Integrated Biodiversity Impact Assessment

Many elements of Integrated Biodiversity Impact Assessment as detailed in the EPA's (2013) Practitioner's Manual have been aligned with in the undertaking of the SEA for the Variations. These include:

Scoping

- Biodiversity-relevant issues were identified for consideration at scoping stage and these are now detailed in Section 4.3.
- Reference to a zone of influence is provided, including at Section 4.3.

Current State of the Environment

- Biodiversity data sources relevant for this national level assessment have been identified.
- Designated sites and other habitats and species of ecological value are identified.
- AA information has been incorporated into the SEA.

Alternatives

- Impacts upon biodiversity are considered under each of the alternatives and certain potential conflicts can be mitigated.

Impact assessment

- Effects on biodiversity are identified and assessed and the AA gives consideration to the interrelationship between biodiversity and potential effects on European Sites.

Mitigation and monitoring

- Taking into account all measures contained within the Variations, all the proposed mitigation measures deriving from the various processes were generally consistent and compatible.
- Indicators and associated targets have been included in SEA for monitoring European Sites.

Reporting

- This SEA ER addresses all biodiversity-related considerations relevant for this level of assessment.
- This SEA ER contains all biodiversity-relevant information, data, figures and maps relevant for this level of assessment.
- This SEA ER has been informed by the AA findings.

Communication and consultation

- Submissions from various environmental authorities have been taken on board.
- The preparation of the Variations, SEA and AA has taken place concurrently and the findings of the AA have informed both the Variations and the SEA.

3.3 Scoping

3.3.1 Introduction

The scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are addressed was decided upon taking into account the level of detail included in the Variations and submissions received from environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental components which are specified under the SEA Directive[3].

[2] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) No alternative solution available;
(b) Imperative reasons of overriding public interest for the plan/programme etc. to proceed; and
(c) Adequate compensatory measures in place.

[3] These components comprise biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

3.3.2 Scoping Notices and Submissions

As part of the scoping process, environmental authorities[4] were notified that a submission or observation in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council.

A detailed submission was made by the Environmental Protection Agency (EPA). Acknowledgments of receipt of SEA Scoping Reports relating to the Variations were received from Kilkenny County Council and Clare County Council.

The EPA submission helped in the development and refinement of the Variations and the scope of the SEA and AA.

3.4 Environmental Report

The SEA Environmental Report predicts and evaluates the likely environmental effects of the Variations and relevant alternatives. The Environmental Report provides the Council, stakeholders and the public with a clear understanding of the likely environmental consequences of the Variations.

Mitigation measures to prevent or reduce significant adverse effects posed by the Proposed Variations are identified in Section 9 - these have been integrated into the Variations.

This Environmental Report has been updated in order to take account of recommendations contained in submissions and in order to take account of any changes which weremade to the original, Variations that were placed on public display. Changes to the Variations have been examined for the need to undertake SEA and AA (full assessments were not required).

The Environmental Report is required to contain the information specified in Schedule 2 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI No. 435 of 2004), as amended (see Table 3.1).

No significant difficulties have been encountered during the undertaking of the assessment.

3.5 SEA Statement

On finalisation of the Variations, an SEA Statement has been prepared that includes information on:

- How environmental considerations have been integrated into the Variations, highlighting the changes to the Variations which resulted from the SEA process;
- How the SEA Environmental Report and consultations have been taken into account, summarising the key issues raised in consultations and in the Environmental Report indicating what action was taken in response;
- The reasons for choosing the Variations in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Variations as adopted were selected; and
- The measures decided upon to monitor the significant environmental effects of implementing of the Variations.

[4] The following authorities were notified: Environmental Protection Agency, Department of Communications, Energy and Natural Resources, Department of Agriculture, Fisheries and Food, Department of the Environment, Community and Local Government, Department of Arts, Heritage and the Gaeltacht and all adjoining planning authorities.

Table 3.1 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section(s) of this Report
(A) Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes	Sections 2, 5 and 8
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the plan or programme	Section 4
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the plan or programme, particularly those relating to European protected sites	Section 4
(E) List environmental protection objectives, established at international, EU or National level, which are relevant to the plan or programme and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 5, 7, 8 and 9
(F) Describe the likely significant effects on the environment	Sections 7 and 8
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the plan or programme	Section 9
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 6, 7 and 8
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Non-Technical Summary
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Relevant aspects of the current state of the Environment

4.1 Introduction

Reflecting the specifications in the SEA Directive, the relevant aspects of the current state of the environment for the following environmental components are identified in this section: biodiversity and flora and fauna, population and human health, soil, water, air and climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

This identification includes information that is relevant to lower tier environmental assessments and decision making (note that Article 5 of the SEA Directive, in accordance with the established European principle of subsidiarity, requires that the Environmental Report includes the information that may reasonably be required taking into account, inter alia, the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment).

Further specific detail on the environmental baseline is provided in Appendix II *More Detail on Assessment of Individual Settlement Plans*.

4.2 Likely Evolution of the Environment in the Absence of the Variations

The Variations have been prepared to facilitate the planned, integrated and sustainable development of the individual towns and villages in Tipperary so that growth can take place in a co-ordinated manner and to provide a consistent zoning and development framework within the County to ensure that the continued expansion of these communities is well managed.

In the absence of the replacement of the existing Plan provisions for these towns, the existing policy would remain in force for the northern and southern halves of the county independently of each other. The provisions of environmental relevant legislation would facilitate the management and protection of the environment.

The Variations provide additional provisions that will contribute towards the management and protection of the environment. In the absence of the replacement of existing policy, such additional protection and management would not be provided.

4.3 Biodiversity and Flora and Fauna

4.3.1 Overview

There are various highly sensitive and designated areas within County Tipperary on account of the species and habitats which they contain. Such areas include the Silvermine Mountains (in the west of the County), the Galtee Mountains (in the south), the Knockmealdown Mountains (in the south) and Slievenamon (in the south west); Lough Derg (in the north east) and the County's drainage network including the River Suir which rises in the north of the County and exits at Carrick-on-Suir in the south west. Sensitive habitats include peatlands, broad-leaved forests and rivers and streams while sensitive species include fish, otters, birds and bats.

4.3.2 Relevant aspects

Information on biodiversity and flora and fauna which is relevant to the Variations and lower tier assessments and decision making includes available information on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats.

Ecological designations include:

- Candidate Special Areas of Conservation[5] (cSACs) and Special Protection Areas[6] (SPAs);

[5] cSACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the

- Salmonid Waters[7] (see Figure 4.5 WFD Register of Protected Areas: Salmonid Rivers) ;
- Freshwater Pearl Mussel catchments[8];
- Flora Protection Order[9] sites;
- Wildlife Sites (including Nature Reserves[10]);
- Certain entries to the Water Framework Directive Register of Protected Areas[11], including Nutrient Sensitive Rivers, Salmonid Rivers and Drinking Water Rivers;
- Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)[12]; and
- Wildfowl Sanctuaries (see S.I. 192 of 1979)[13].

Protected Species include:

- Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside the above sites, e.g. Otter and bats;
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2000, wherever they occur; and
- 'Protected species and natural habitats' as defined in the European Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including: Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur).

Specific habitats and species in specific locations are given consideration through project level planning and associated assessments.

The following information is relevant to ecological networks and connectivity and non-designated habitats:

- CORINE land cover mapping (including areas likely to contain a habitat listed in annex 1 of the Habitats Directive)[14];

DECLG due to their conservation value for habitats and species of importance in the European Union. The sites are *candidate* sites because they are currently under consideration by the Commission of the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000.

[6] SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive - by the DECLG due to their conservation value for birds of importance in the European Union.

[7] Salmonid waters are designated and protected as under the European Communities (Quality of Salmonid Waters) Regulations 1988 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (Salmo salar), trout (Salmo trutta), char (Salvelinus) and whitefish (Coregonus).

[8] Freshwater pearl mussel is a globally threatened, long-lived and extremely sensitive species that can be impacted by many forms of pollution, particularly sediment and nutrient pollution and by hydrological and morphological changes, which may arise from developments, activities or changes in any part of the catchment. The Republic of Ireland currently has 19 SACs designated for the pearl mussel covering 27 sub-basins. One of these sub-basins is the Munster Blackwater catchment that holds populations of freshwater pearl mussel, *Margaritifera margaritifera.*

[9] The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 1999.

[10] A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. There are currently 78 Statutory Nature Reserves. Most are owned by the State but some are owned by organisations or private landowners.

[11] In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by wildlife have been listed on Registers of Protected Areas (RPAs). RPAs include those for Protected Habitats or Species, Shellfish, Salmonid, Nutrient Sensitive Areas, Recreational Waters and Drinking Water.

[12] NHAs are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. pNHAs were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats.

[13] Wildfowl Sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. There are 68 sanctuaries in the State. Shooting of game birds is not allowed in these sanctuaries.

[14] The CORINE land cover mapping classifies land cover under various headings. This dataset allows for the identification of lands that are likely to be most valuable to biodiversity including those which are likely to contain a habitat listed in Annex 1 of the Habitats Directive e.g. natural grasslands, peat bogs. CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or

- Watercourses, wetlands and peatlands;
- The EPA's Framework National Ecological Network for Ireland[15];
- Other sites of high biodiversity value or ecological importance, e.g. BirdWatch Ireland's 'Important Bird Areas' (Crowe et al., 2009);
- Native Trees; and
- Other relevant North Tipperary County Development Plan and South Tipperary County Development Plan designations.

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and urban areas.

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the Natura 2000 network of designated ecological sites are maintained.

Ecological islands or areas of habitat that are not connected to surrounding ecologically valuable habitats can also be important.

4.3.3 Further Detail

4.3.3.1 European Sites

Additional information on European Sites is provided in the AA Natura Impact Report which accompanies the Variations and this Environmental Report.

Figure 4.1 maps European Sites within and within 10km County Tipperary. Figure 4.2 maps European Sites within and within 15km County Tipperary.

The Zone of Influence of the Variations with respect to potential impacts upon ecology can be estimated to be ecology within this area together with downstream waterbodies within the Shannon International, South Western and South Eastern River Basin Districts.

For more detail please refer to the AA Natura Impact Report.

4.3.3.2 Land Cover Mapping

Figure 4.3 illustrates the 2012 CORINE classification of landcover under various headings. Land cover categories which indicate lands that are likely to be most valuable to biodiversity include broad-leaved forests, natural grassland, moors and heathlands, transitional woodland scrub, peat bogs, stream courses and water bodies.

4.3.3.3 Natural Heritage Areas and Areas likely to contain Annex I Habitats

Natural Heritage Areas (NHAs), proposed NHAs and Margaritifera Sensitive Areas are illustrated on Figure 4.4.

4.3.4 Existing Problems

Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna however legislative objectives governing biodiversity and fauna were not identified as being conflicted with.

The Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs Article 17 of the Report on the Status of EU Protected Habitats and Species in Ireland (2013) identifies many Irish habitats to be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. The report identifies that the majority of EU-protected species are, however, in *Favourable* status in Ireland, and stable, although a small number are considered to be in *Bad* status and continue to require concerted efforts to protect them.

through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface.

[15] The EPA's Framework National Ecological Network provides a classification of the relative importance of areas by virtue of the biodiversity and flora that they contain and the connectivity they provide. Many of the areas identified are corridors.

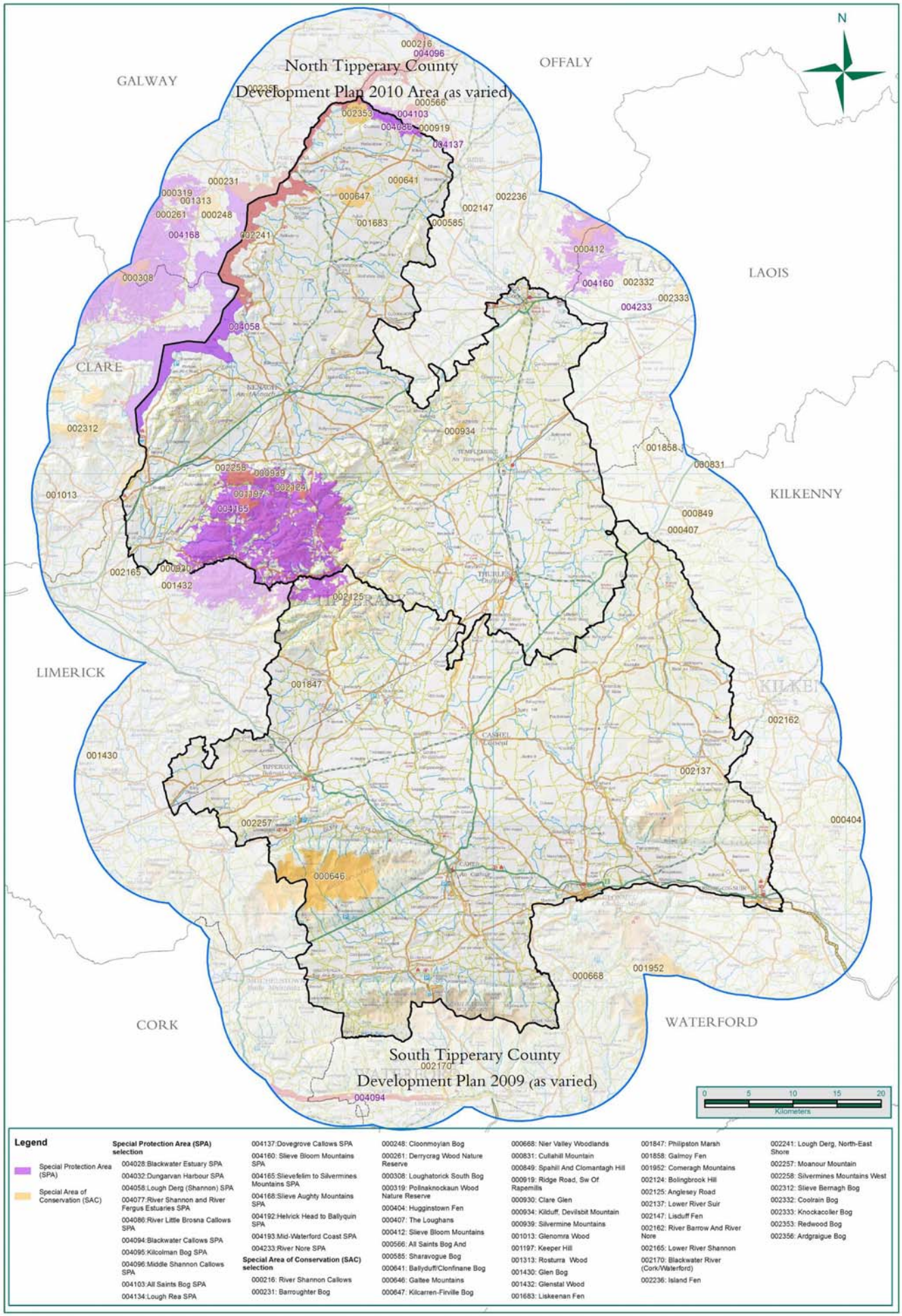

Figure 4.1 European Sites within and within 10km of County Tipperary

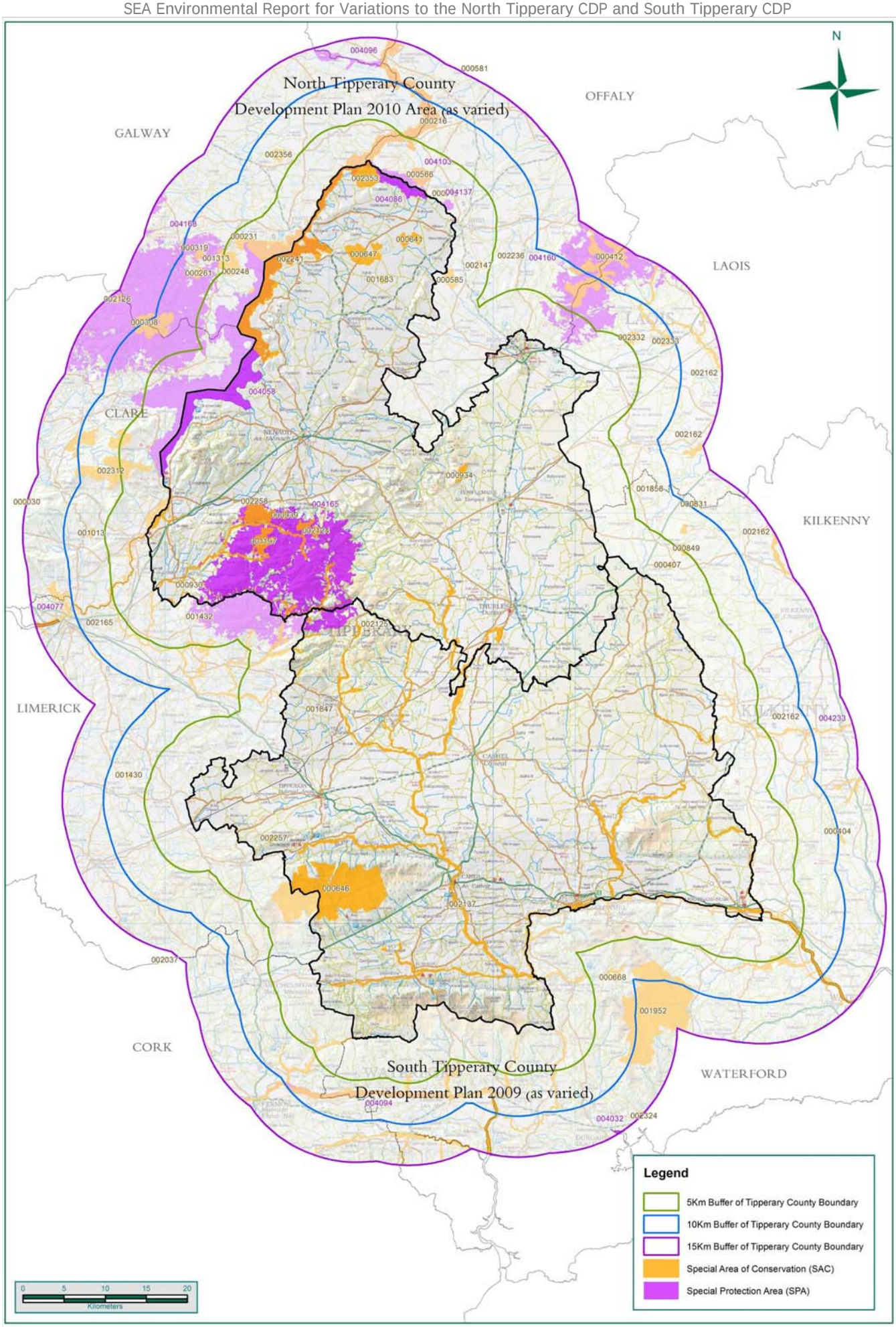

Figure 4.2 European Sites within and within 15km of County Tipperary

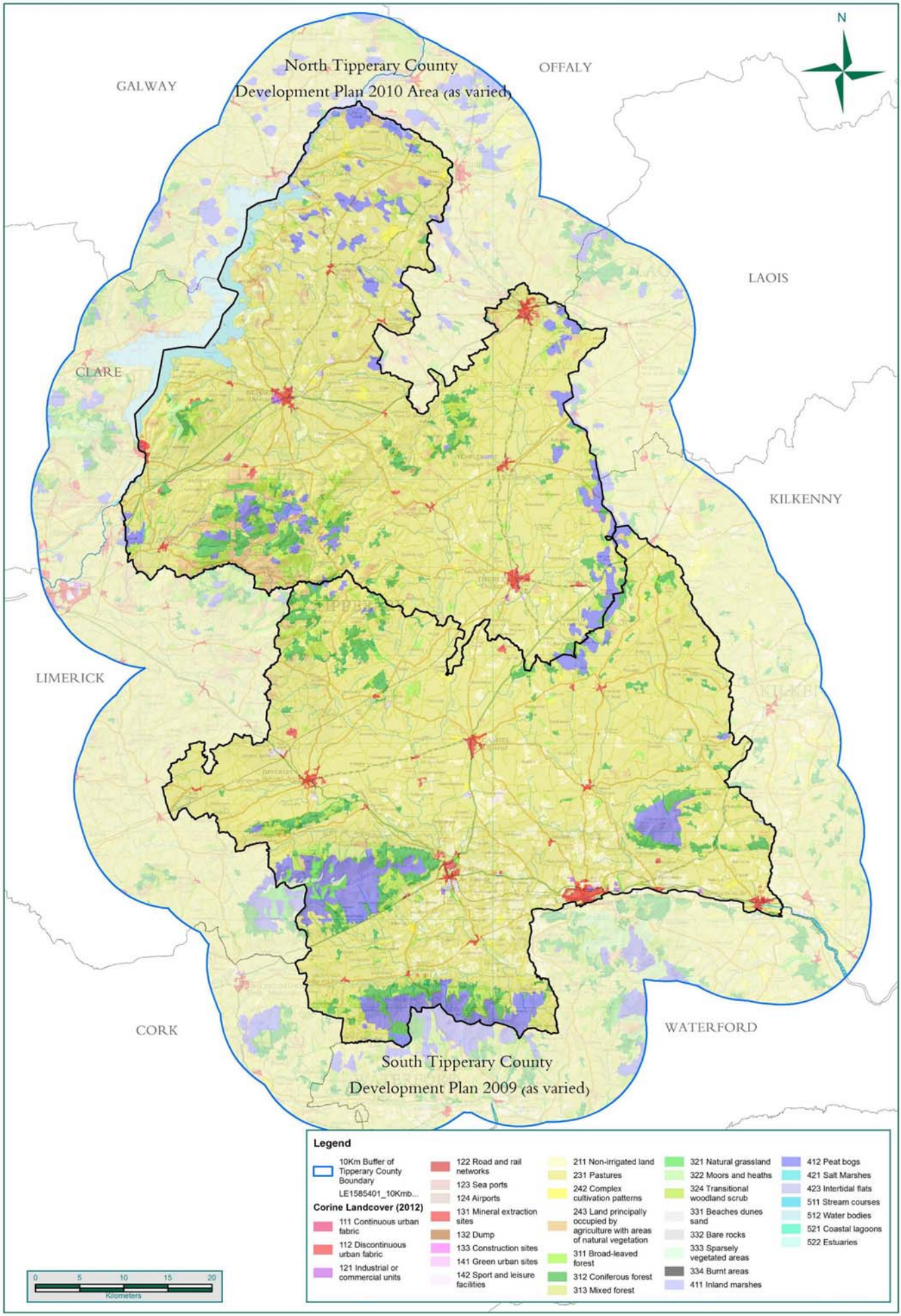

Figure 4.3 CORINE Landcover Mapping 2012

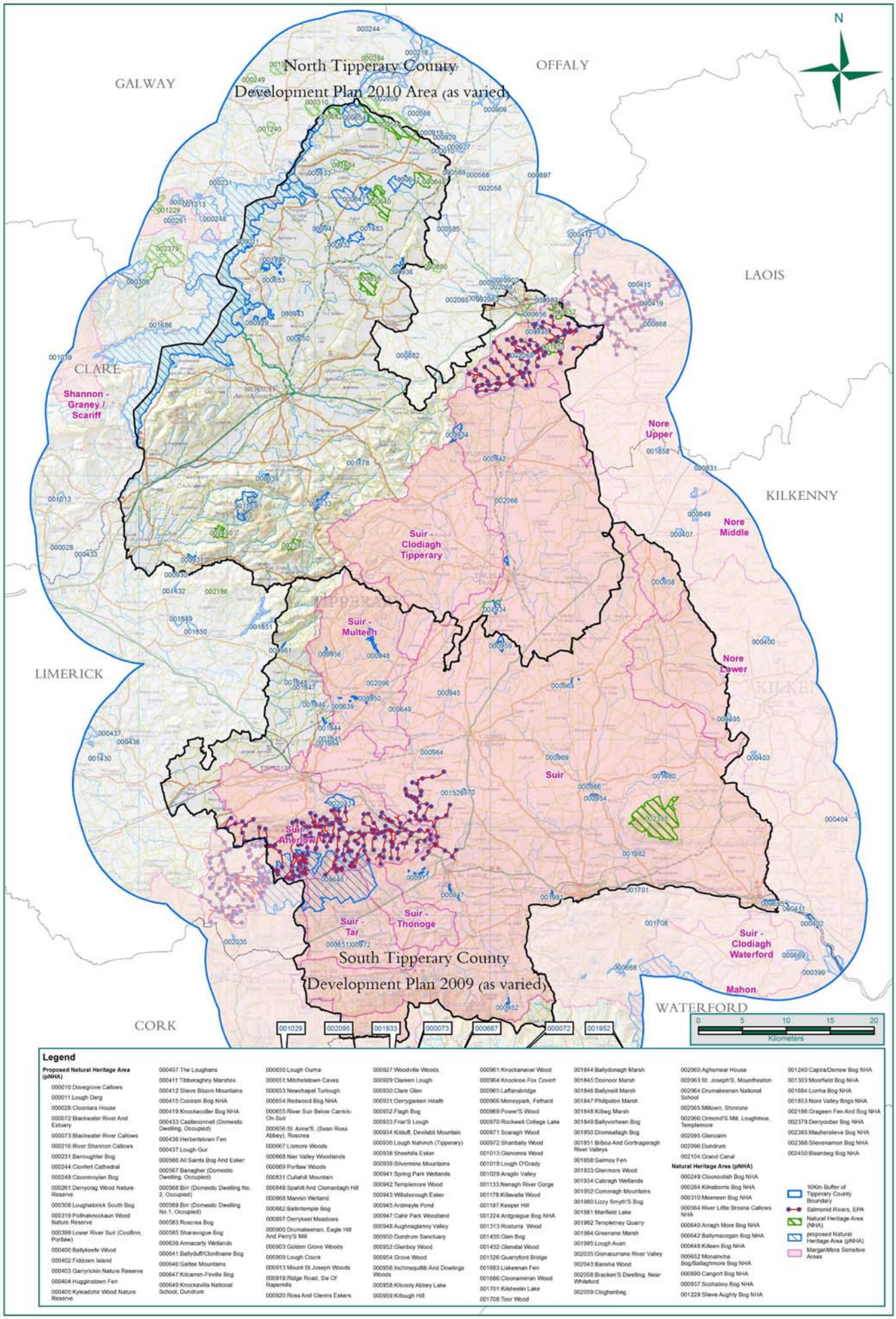

Figure 4.4 Natural Heritage Areas (NHAs), Proposed NHAs and Margaritifera Sensitive Areas

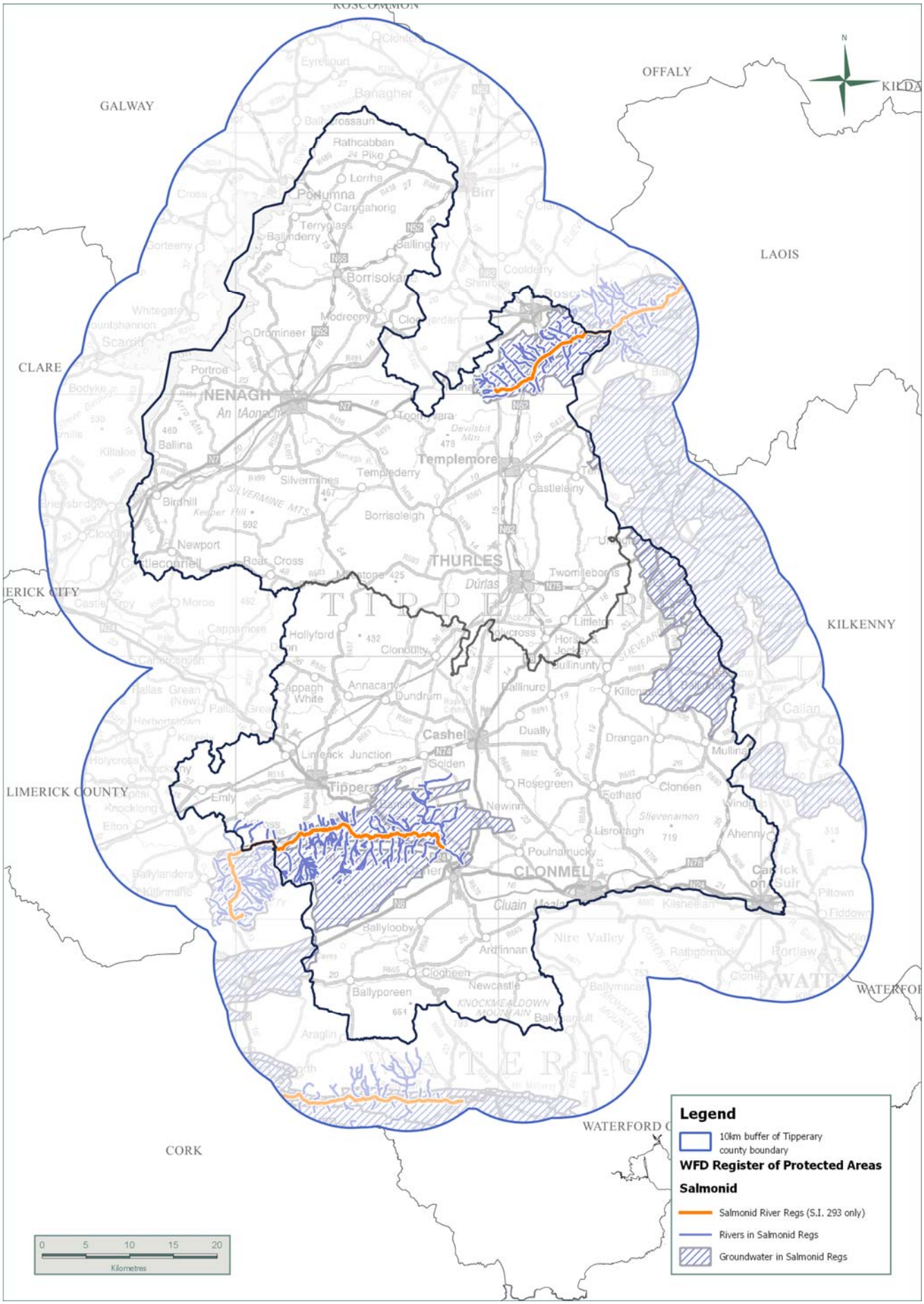

Figure 4.5 WFD Register of Protected Areas: Salmonid Rivers

4.4 Population and Human Health

4.4.1 Interactions

The impact of implementing the Variations on population and human health is influenced by the impacts which the Variations will have upon environmental vectors. 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. Population and human health has the potential to interact with issues including the following:

- Developmental and recreational pressure on habitats and landscapes;
- Increase in demand for waste water treatment at the municipal level;
- Increase in demand for water supply Water quality (see Section 4.6); and
- Flood risk (in flood sensitive areas) (see Section 4.6).

Clusters of higher population density, in the form of towns and small settlements are scattered throughout Tipperary, except for in upland areas. There is also dispersed one off rural development throughout the County[16].

The location of the individual settlements within the County and their associated hierarchy within the County Development Plan are mapped on Figure 4.7. The Variations relate to plans for settlements on the lower three levels of the hierarchy (Service Centres, Local Service Centres and Settlement Nodes); plans for settlements from the upper three levels (Regional Centres, Sub-Regional Centres and District Service Centres) are not affected by the Variations.

Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a plan or programme began to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population.

4.4.2 Existing Problems

There is historic and predictive evidence of flooding in various locations within the County. Some waterbodies within County Tipperary are at risk of not meeting the Water Framework Directive's objective of good water quality.

4.5 Soil

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

Soil type in County Tipperary is shown on Figure 4.6. Peat soils are often indicative of areas that are the most sensitive to development due ecological sensitivities and impeded drainage issues. Settlements within County Tipperary are generally located away from peatland areas.

4.5.1 County Geological Sites

Sites of national or local geological heritage importance are classed by the Geological Survey of Ireland as County Geological Sites.

There are number of County Geological Sites in County Tipperary that are identified as they occur within or nearby specific settlements (see Appendix II *More Detail on Assessment of Individual Settlement Plans*).

[16] Please refer to CSO on-line sources for more details on population figures (www.cso.ie).

4.5.2 Potentially Contaminated Lands and landfill Sites

As is the case with other urban and semi-urban areas across the country, there is potential for contamination at sites within County Tipperary, especially where land uses occurred in the past in the absence of environmental protection legislation.

Local knowledge on potentially contaminated soils and landfill sites was provided at cross-Departmental County Council Workshops as part of the Variation/SEA preparation process. Settlements where such local knowledge was identified are as follows: Silvermines, Dundrum, Donohill, Dolla (see Appendix II *More Detail on Assessment of Individual Settlement Plans*).

4.5.3 Existing Problems

Legislative objectives governing soil were not identified as being conflicted with.

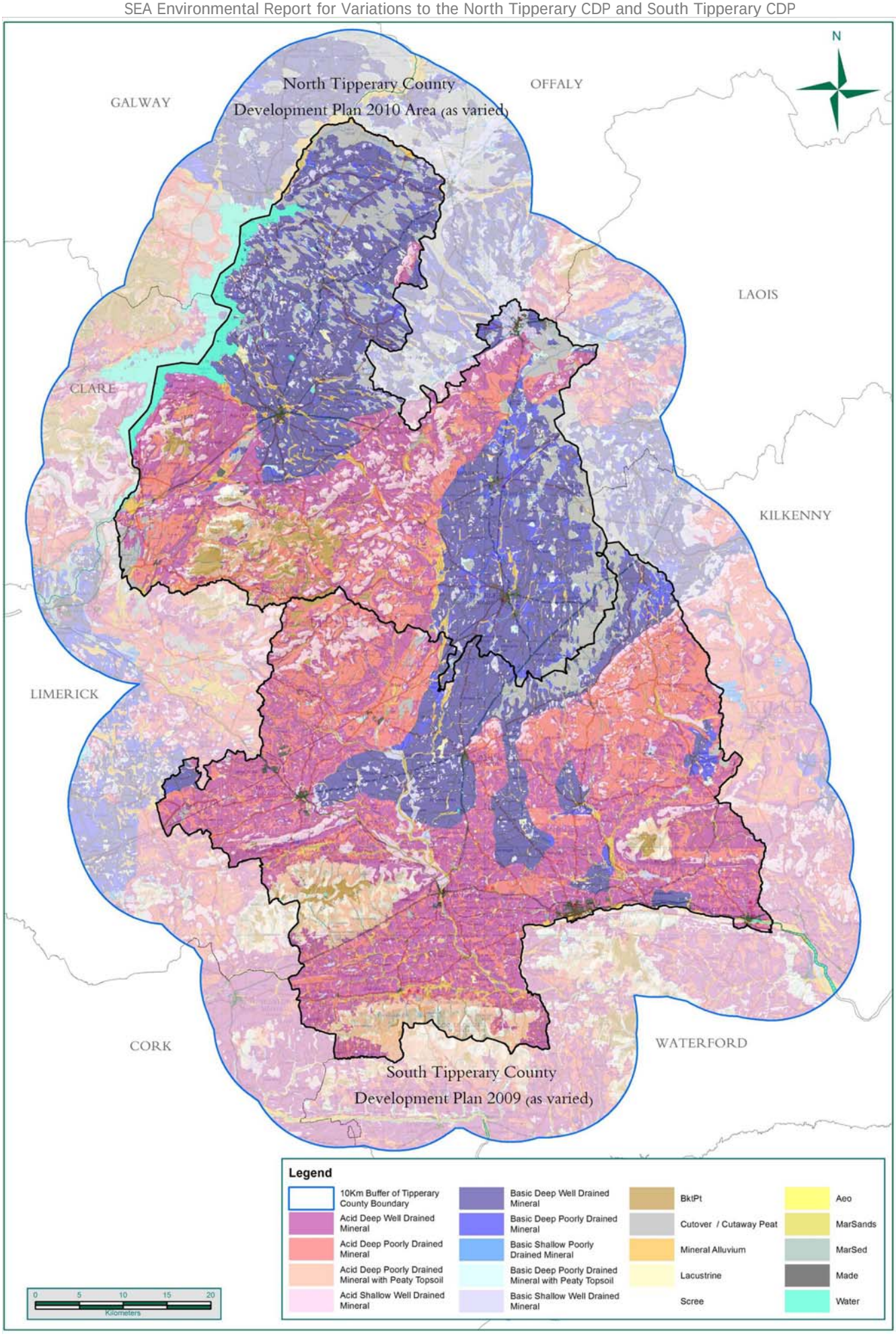

Figure 4.6 Soil Type

Figure 4.7 Map of County Tipperary Electoral Districts and Settlement Hierarchy

4.6 Water

4.6.1 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- Sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- Discharges arising from diffuse or dispersed activities on land;
- Abstractions from waters; and
- Structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from waste water treatment plants, licensed discharges from industrial activities, landfills, contaminated lands (e.g. disused gas works) and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

4.6.2 Water Framework Directive

4.6.2.1 Introduction and Requirements

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving “good status”. All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status.

The EU’s Common Implementation Strategy Guidance Document No. 20 provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant river basin management plan.

4.6.2.2 River Basin Districts and Water Bodies

The Water Framework Directive is implemented at River Basin Districts (RBD) level. An RBD is an area of land that is drained by a large river or number of rivers and the adjacent estuarine/coastal areas. For the first cycle of River Basin Management Plans (these are prepared for each RBD and provide specific policies for individual river basins in order to implement the requirements of the WFD) there were eight RBDs on the island of Ireland.

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies. River basin districts are also divided into multiple sub-basins. Sub-basins are areas smaller than the districts that comprise the land from which all surface run-off flows through as series of streams, rivers and possibly, lakes to a particular point in a water

course. Sub-basins do not necessarily include coastal or estuarine waters.

4.6.2.3 River Basin Management Plan

Following a review of the first cycle of RBMPs, the DECLG has determined that, in the interest of efficiency, there will be a single national approach to the development of RBMPs for the second cycle and that the Eastern, South Eastern, South Western, Western and Shannon River Basin Districts will be 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 will be established in the South for the purpose of coordinating water management with authorities in Northern Ireland.

WFD Monitoring Programmes are undertaken in Ireland by the EPA[17]. Overviews of the status for monitored waterbodies are published on an ongoing basis and are made available online. Up-to-date, detailed information with respect to relevant water bodies will, as is normal practice, inform lower tier project assessments and design.

4.6.3 Surface Water

4.6.3.1 Introduction

The Zone of Influence of the Plan beyond the County area with respect to impacts upon waters can be estimated to be all bodies of groundwater and all surface waters downstream areas of catchments[18] which drain the County.

4.6.3.2 WFD Surface Water Status

The WFD defines *surface water status* as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. Thus, to achieve *good surface water status* both the ecological status and the chemical status of a surface water body need to be at least *good*.

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of good ecological status when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedance of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. *Good* surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

The most recent available information from the EPA (for the years 2010-2015) generally classifies surface waters in County Tipperary as being of *good* or *high status*, however there are stretches of rivers and streams which are classified as being of *moderate* and, to a lesser extent, *poor status* (see Figure 4.8). More detail on the status of waters within the County's various settlements is provided in Appendix II (*More Detail on Assessment of Individual Settlement Plans*). Rivers or streams with the most deteriorated status occurring within or adjacent to settlements include those at Killenaule, Mullinahone, Terryglass, Drangan, Moyne and The Ragg and Ballingarry (NT).

4.6.4 Ground Water

4.6.4.1 Introduction

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water.

4.6.4.2 WFD Groundwater Status

For groundwater bodies, the approach to classification is different from that for surface water. For each body of groundwater, both the chemical status and the quantitative must be determined. Both have to be classed as either *good* or *poor*. The WFD sets out a series

[17] www.epa.ie

[18] A catchment is an area of land contributing to a waterbody, with all the water ultimately running off to a single outlet. The WFD requires water quality management to be based on natural river catchments i.e. by reference to the natural, environmental unit rather than by reference to administrative or legal boundaries, which often fragment river catchments.

of criteria that must be met for a body to be classed as good chemical and quantitative status.

The most recent available information from the EPA (for the years 2010-2015) generally classifies ground waters in County Tipperary as being of *good status* (see Figure 4.9). Two smaller areas of poor status are found within the County – one in the north and one in the south.

4.6.4.3 Aquifer Vulnerability and Productivity

The Geological Survey of Ireland (GSI) rates the rocks, or aquifers, that contain groundwater according to both their vulnerability to pollution and their productivity.

Aquifer vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Aquifer vulnerability is based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays), and the presence of karst features. Groundwater is most at risk where the subsoils are absent or thin and, in areas of karstic limestone, where surface streams sink underground at swallow holes[19].

Figure 4.10 maps aquifer vulnerability. Areas of high to extreme vulnerability are found underlying much of the County, including at many of the settlements subject to the Variation (see Appendix II *More Detail on Assessment of Individual Settlement Plans*).

The GSI rates aquifers based on aquifer productivity - hydrogeological characteristics and the value of the groundwater resource. Ireland's entire land surface is divided into nine aquifer productivity classifications that encompass various types of regionally, locally important and poor aquifers. Most regionally important aquifers are found in the south of the County (see Figure 4.11).

4.6.4.4 Source Protections Areas

Source Protection Area delineation provides an assessment of the land area that contributes groundwater to a borehole or spring. Source reports have been undertaken by the GSI on behalf of Local Authorities since the mid-1990s. Since then, more than 120 have been completed. There are a number of Source Protection Areas within County Tipperary, most of which occur within the north of the County (see Figure 4.12).

4.6.5 WFD Registers of Protected Areas

The WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife. The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species e.g. Salmonid areas; Special Areas of Conservation (SACs); and, Special Protection Areas (SPAs).

Entries to the RPAs in County Tipperary include:

- The water bodies within and surrounding the County supporting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs);
- Lough Derg, all of the groundwater underlying the County and stretches of certain stretches of rivers, by virtue of the abstractions of drinking water taken from them – these waterbodies are mapped on Figure 4.13;
- Nutrient sensitive rivers (a stretch of the Nenagh River from Nenagh to Lough Derg, a stretch of the River Suir downstream of Thurles and a stretch of the River Suir downstream of Clonmel) – these rivers are mapped on Figure 4.14 as are waterbodies to which these rivers have connectivity;
- Salmonid rivers, including stretches of the Rivers Aherlo and River Nore, are mapped on Figure 4.15 as are waterbodies to which these rivers have connectivity;
- Lough Derg as a recreational waterbody – see Figure 4.16.

[19] Source: Geological Survey of Ireland (2014) Metadata

4.6.6 Flooding

The most significant source of flood risk within the County is from fluvial sources (from rivers/streams) however there are other sources of flooding present including those from pluvial (from rainwater) and surface drainage systems.

Flooding is an environmental phenomenon which, as well have causing economic and social impacts, could in certain circumstances pose a risk to human health. The existence of flood risk within the County can be illustrated by historical information on the locations and/or extents of known flooding events. The main sources of flooding in the County are fluvial and pluvial flooding.

Appendix II (*More Detail on Assessment of Individual Settlement Plans*) provides additional information on flood risk with respect to a number of the County's settlements.

4.6.7 Existing Problems

Subject to exemptions provided for by Article 4 of the WFD[20], based on available data on the status of waters within the County, certain surface water bodies within the County will need improvement in order to comply with the objectives of the WFD.

There is historic and predictive evidence of flooding in various locations across the County.

[20] Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant river basin management plan.

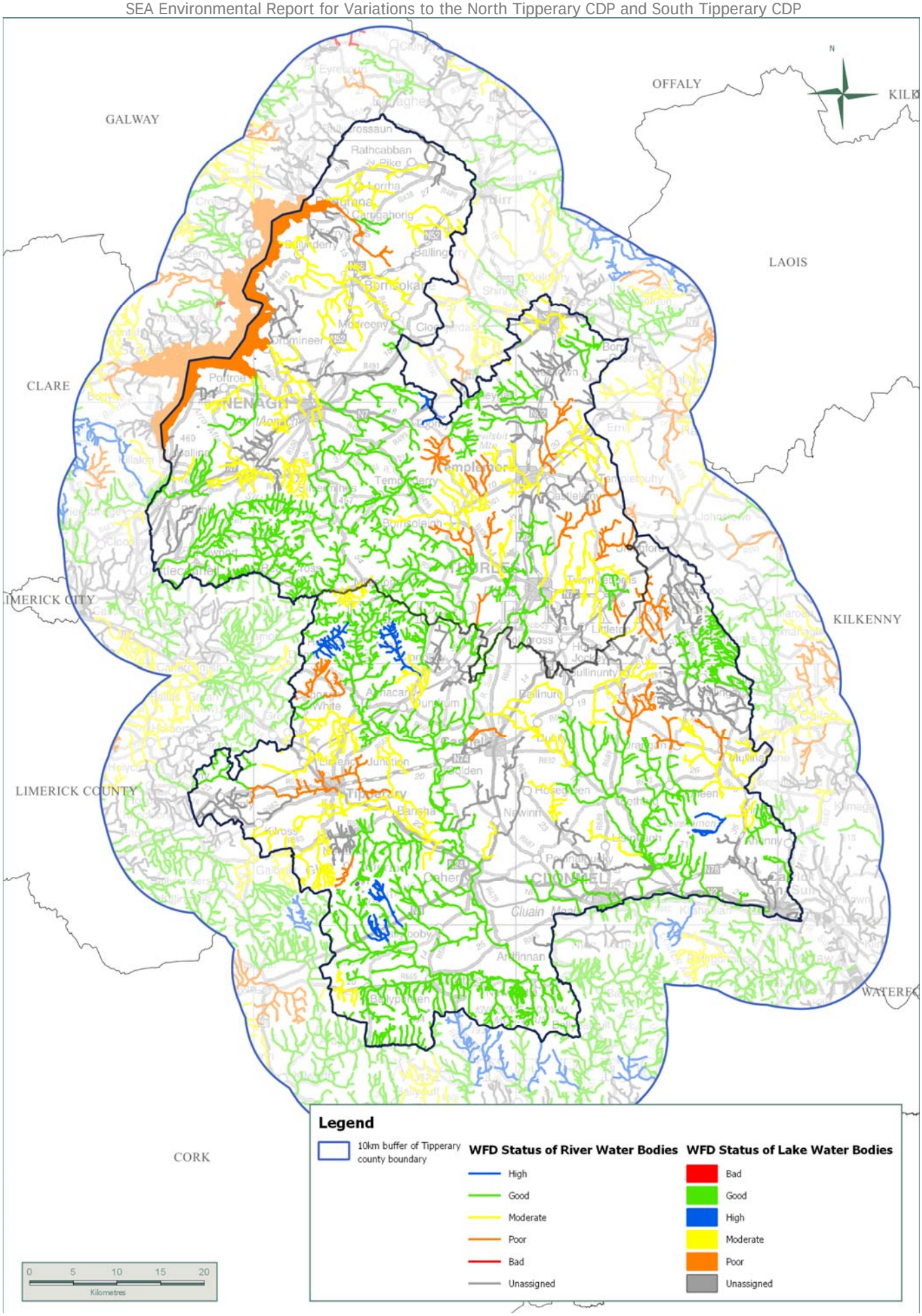

Figure 4.8 WFD Status of Surface Water Bodies

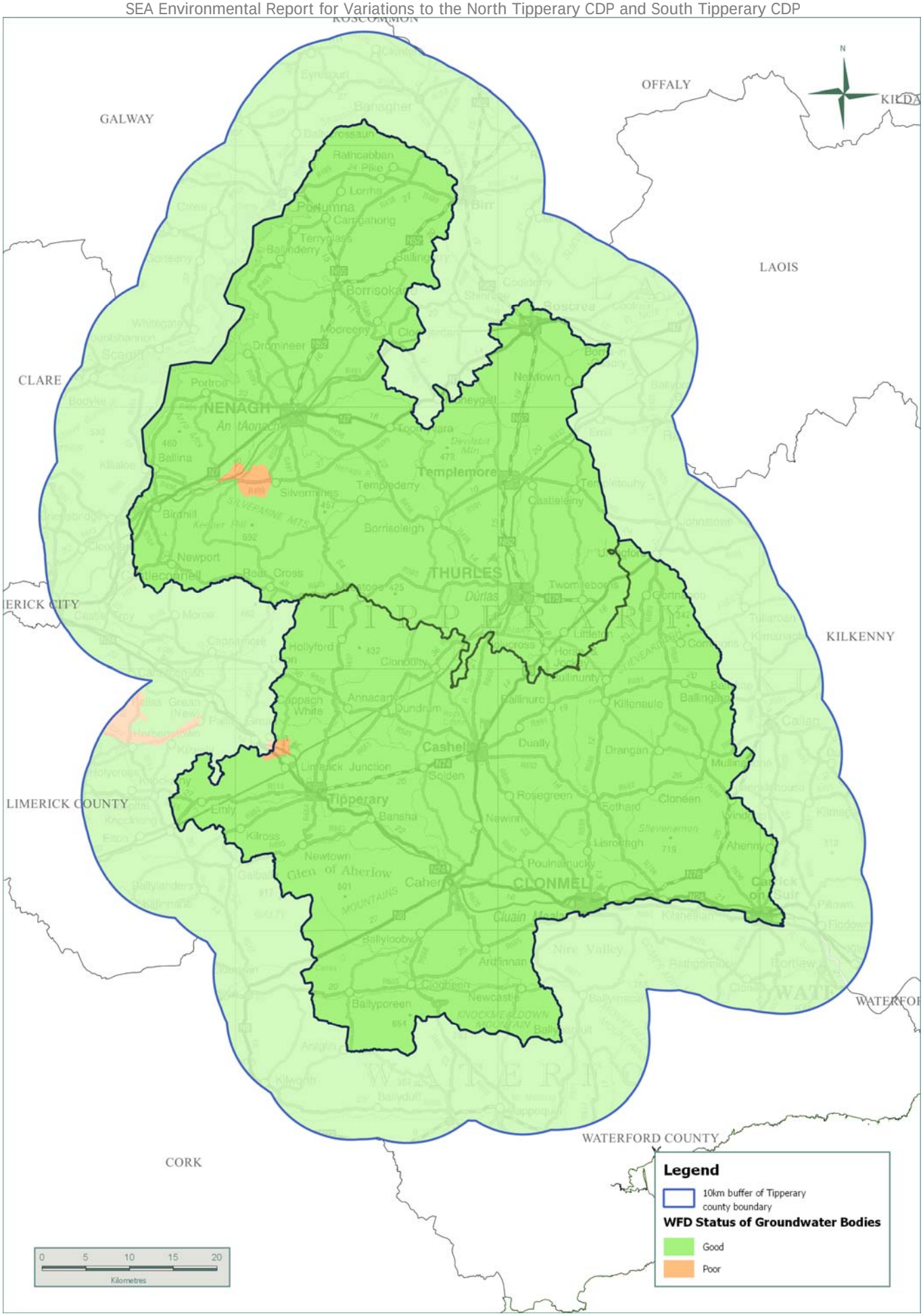

Figure 4.9 WFD Status of Groundwater Bodies

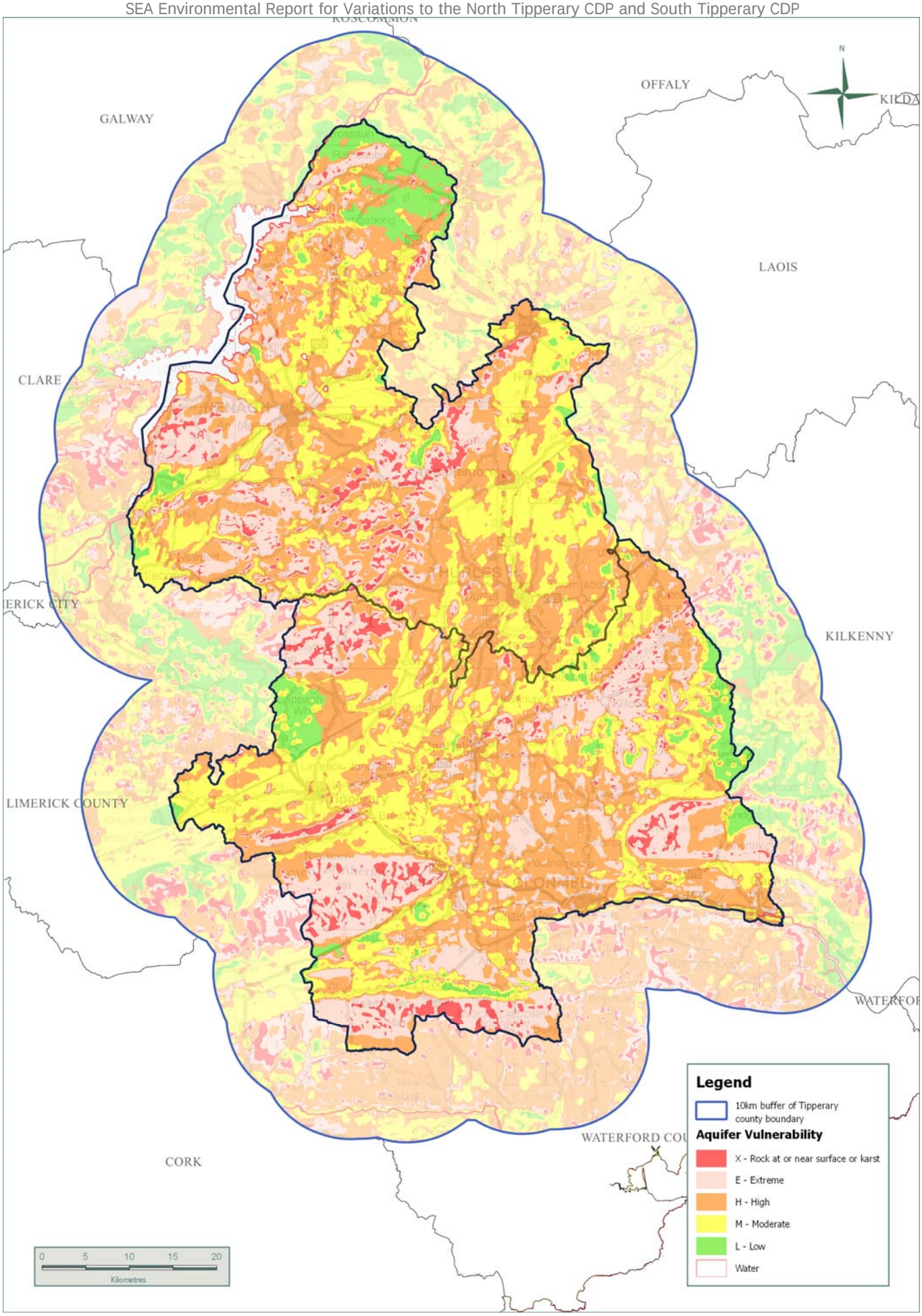

Figure 4.10 Aquifer Vulnerability

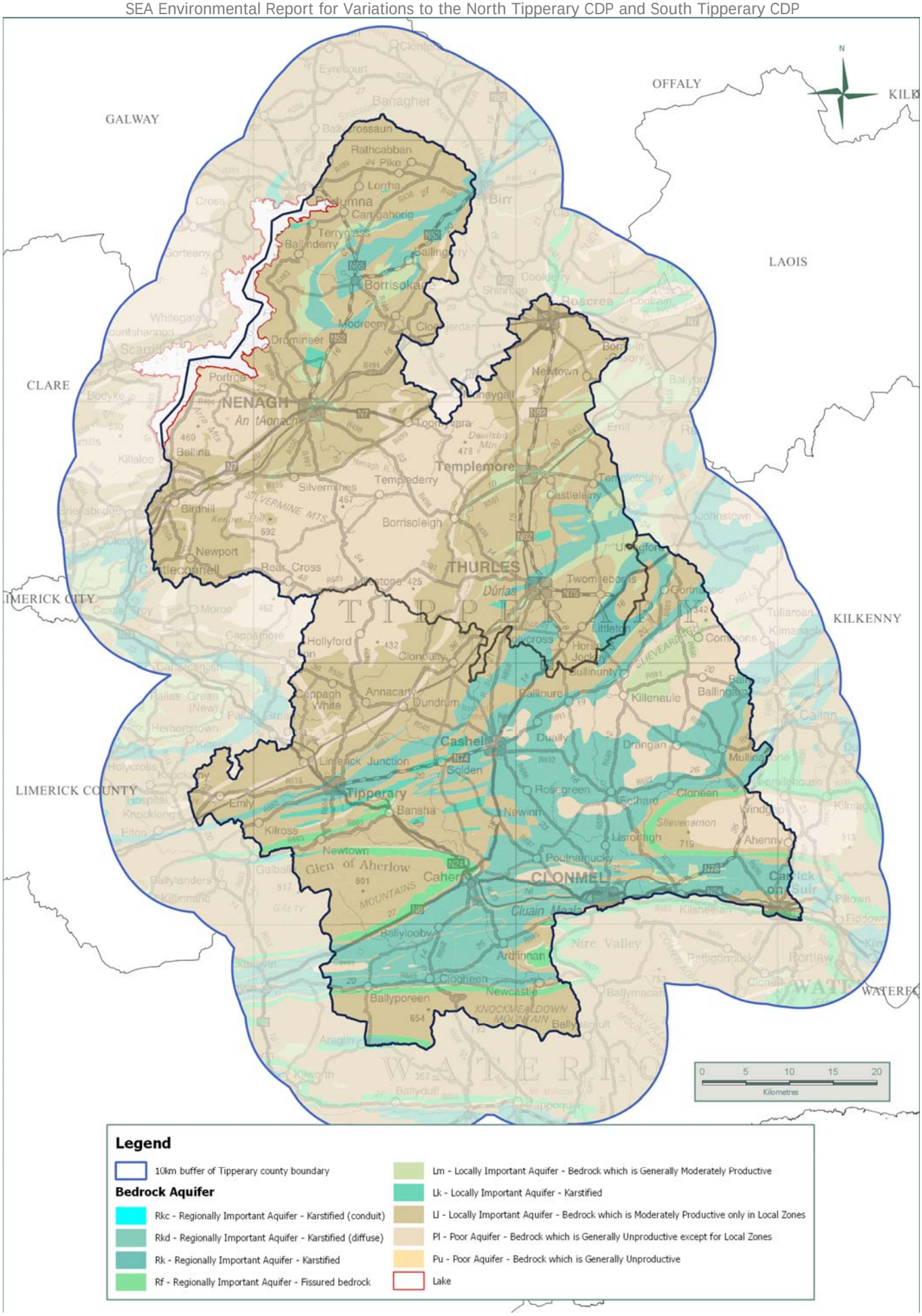

Figure 4.11 Aquifer Productivity

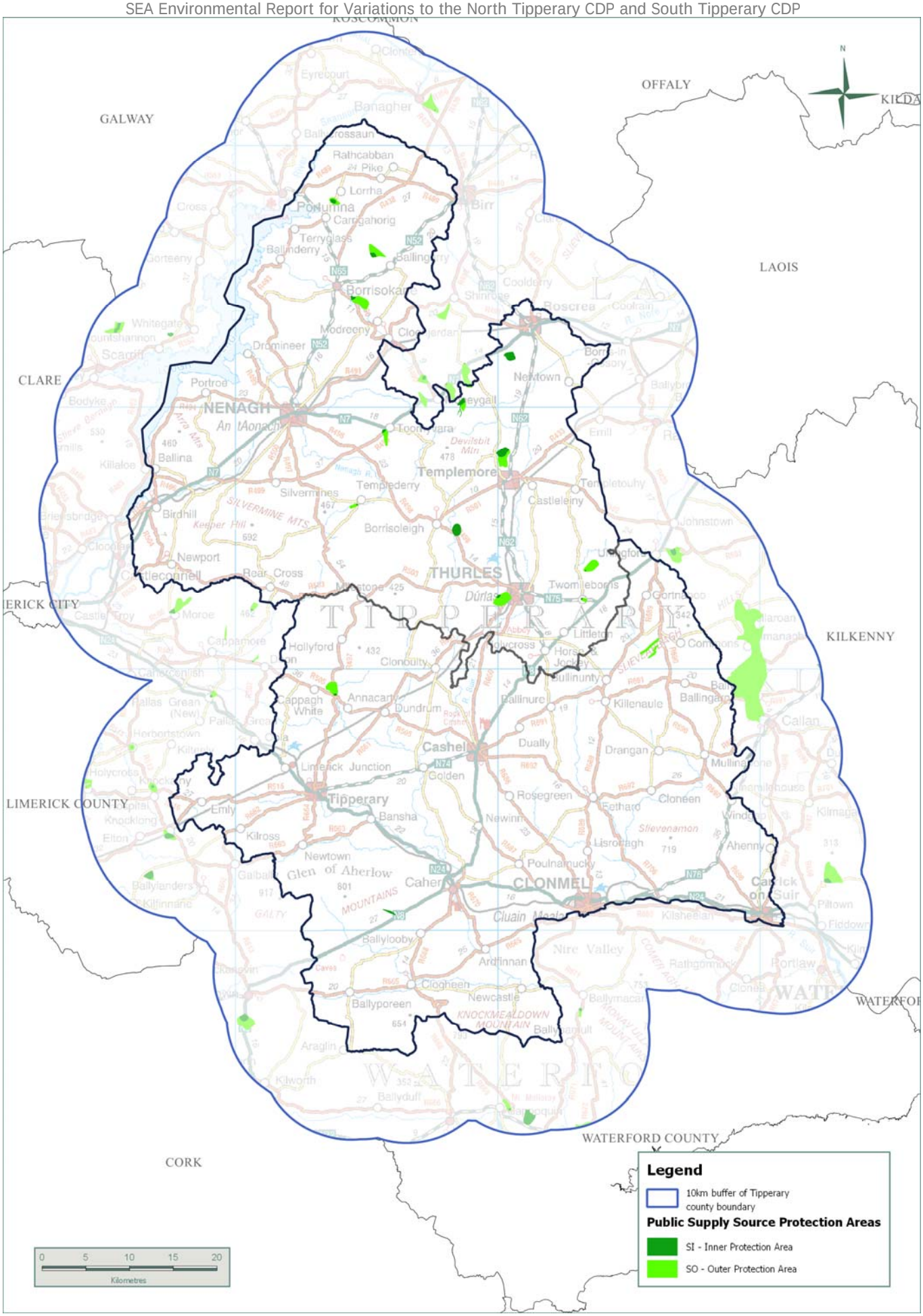

Figure 4.12 Source Protection Areas

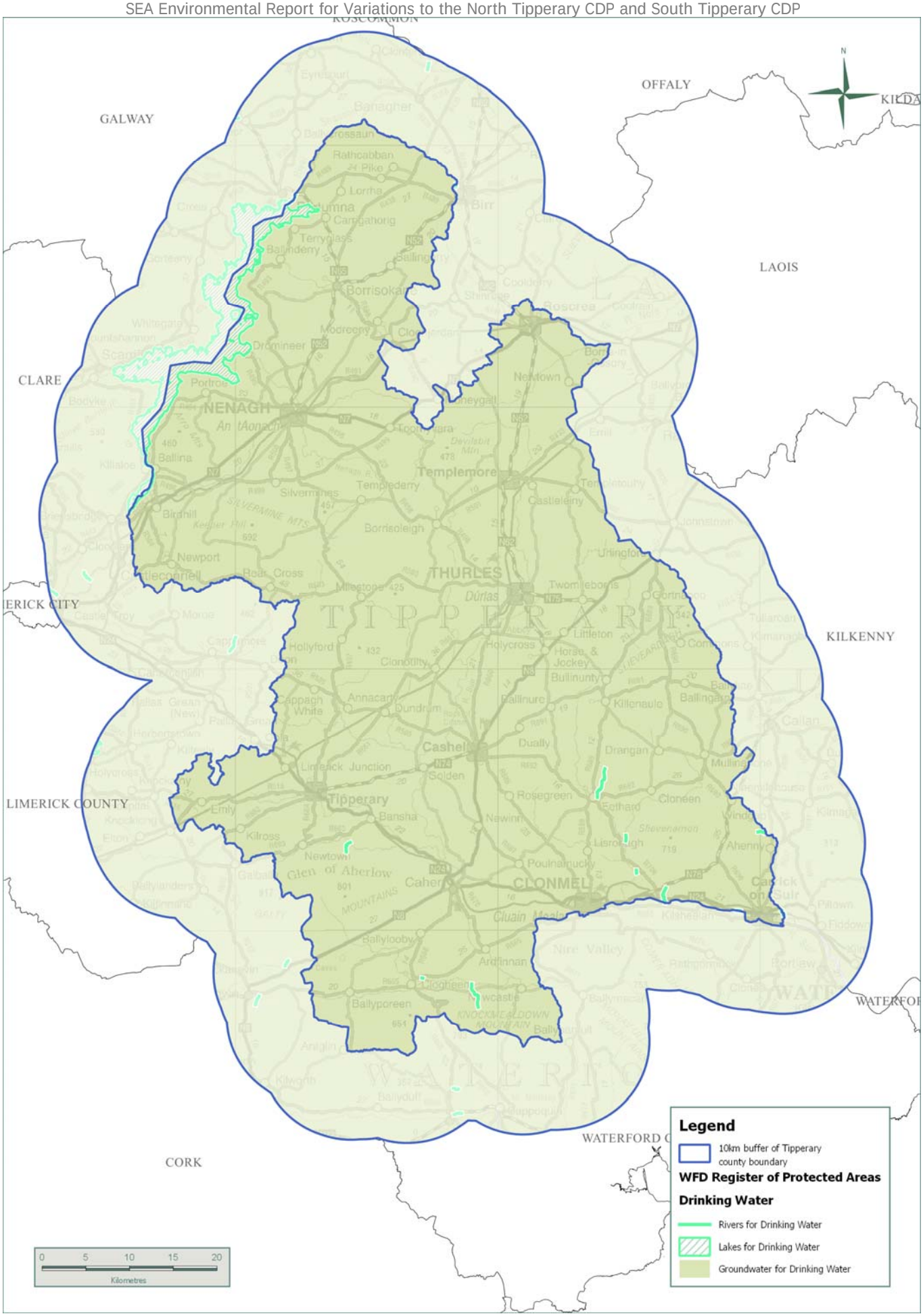

Figure 4.13 WFD RPA Drinking Water

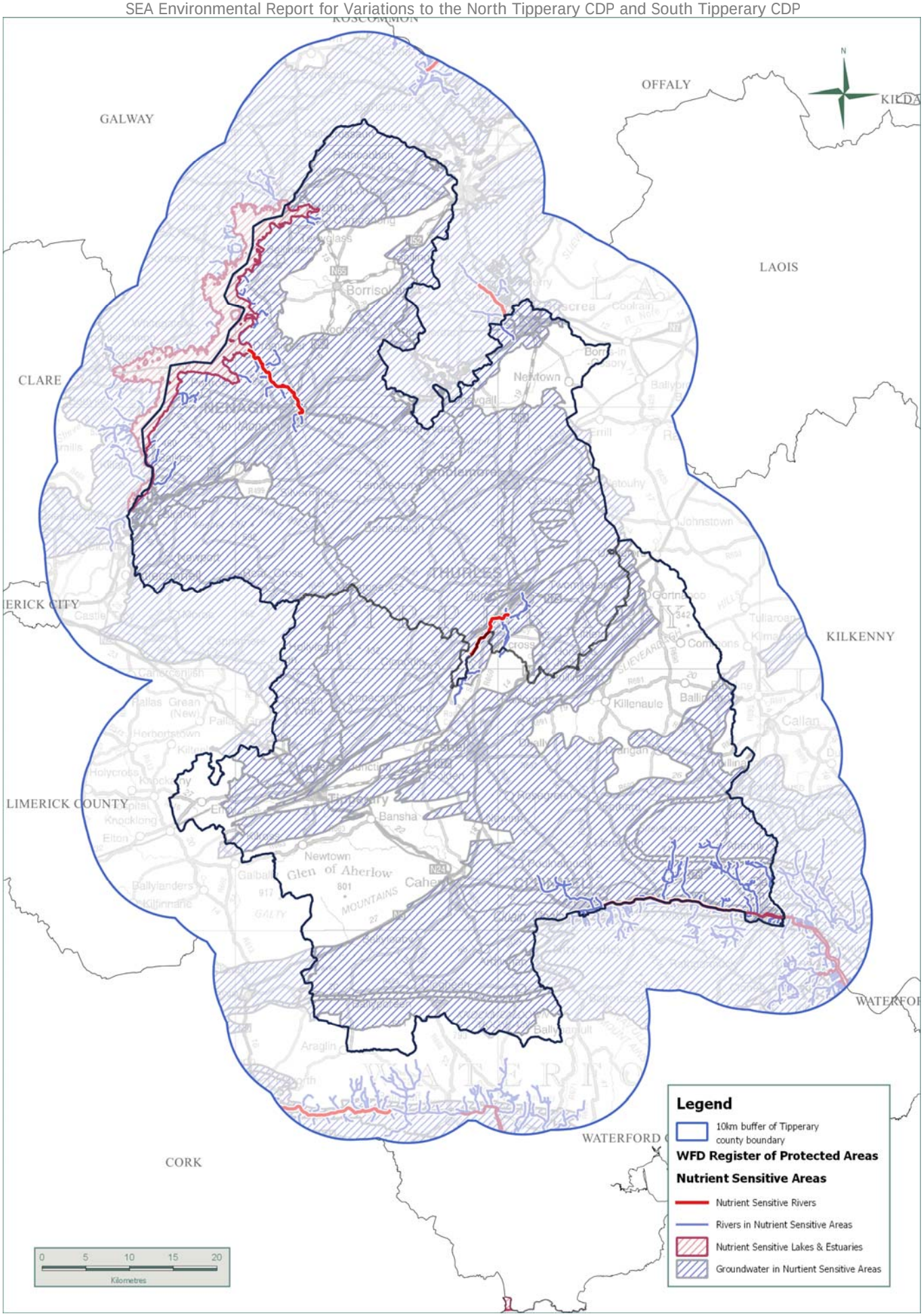

Figure 4.14 WFD RPA Nutrient Sensitive Areas

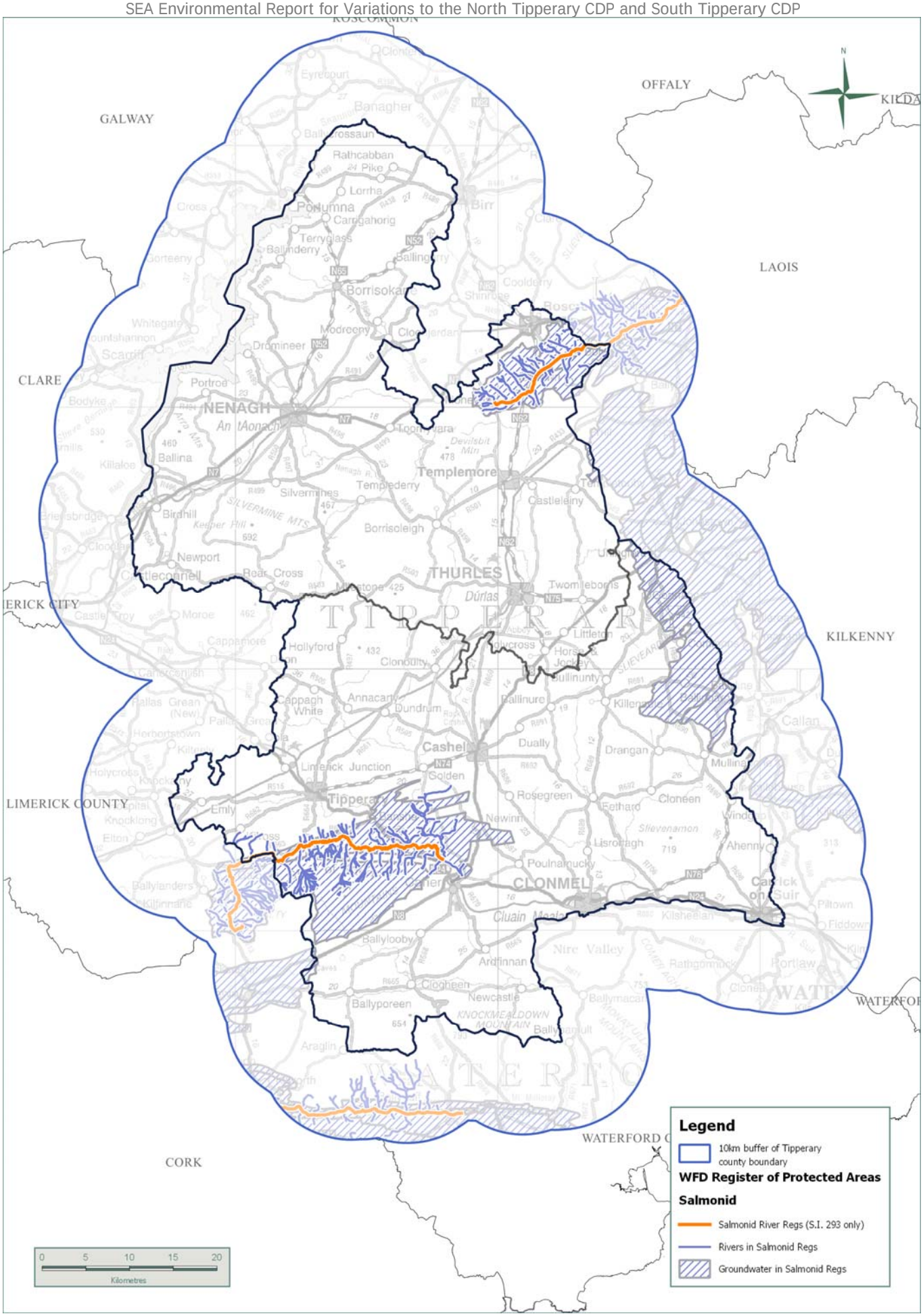

Figure 4.15 WFD RPA Salmonid Rivers

Figure 4.16 WFD RPA Recreational Waters

4.7 Air and Climatic Factors

4.7.1 Climatic Factors

The key issue involving the assessment of the effects of implementing the Proposed Variations on climatic factors relates to greenhouse gas emissions arising from transport.

Between 2008 and 2011, Ireland's greenhouse gas emissions decreased across all sectors due to the effects of the economic downturn with emissions falling by 15.2% between 2008 and 2011. However, 2012 saw emissions rise by 1.2% when compared with 2011[21].

Maximising sustainable mobility will help Ireland meet its emission target for greenhouse gases under the 2020 EU Effort Sharing target which commits Ireland to reducing emissions from those sectors that are not covered by the Emissions Trading Scheme (e.g. transport, agriculture, residential) to 20% below 2005 levels.

The second National Climate Change Strategy, published in 2007, provides a framework for action to reduce Ireland's greenhouse gas emissions to comply with the target, set by the EU, to reduce greenhouse gas emissions by 20% on 1990 levels by 2020. The Strategy states that: *"Electricity generation from renewable sources provides the most effective way of reducing the contribution of power generation to Ireland's greenhouse gas emissions. The Government has therefore established ambitious national targets for the contribution of renewables to power generation; 15% of electricity consumed will be from renewable sources by 2010 and 33% by 2020. These are above and beyond existing EU targets."* The Strategy designated the Environmental Protection Agency (EPA) with responsibility for developing annual national emission projections for greenhouse gases for all key sectors of the economy.

The EPA 2015 publication *Ireland's Greenhouse Gas Emission Projections 2014-2035*, identifies that:

- Under the 'worst case' scenario, Ireland is projected to cumulatively exceed its obligations by 4 Mt of CO_2 eq over the period 2013-2020;
- Under the 'best case' scenario, Ireland is projected to cumulatively meet its compliance obligations over the 2013-2020 period and meet its 2020 target. This takes into account the overachievement of the annual limits in the period 2013- 2017 which is banked and used in the years 2018-2020. The report identifies that achieving the outlook under the 'best case' scenario will require focus and effort which includes meeting renewable targets for transport and heat as well as energy efficiency targets; and
- Further energy efficiencies and renewables penetration in the residential, industrial and commercial sectors will be required to reduce the contribution to non-Emissions Trading Scheme sector (i.e. agriculture, transport, built environment, waste and non-energy intensive industry) emissions in 2035.

It is also noted that there are emerging objectives relating to climate adaptation and that there is likely to be future Guidance for climate change proofing of land use plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).

Ireland's emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998. Travel is a source of:

- Noise;
- Air emissions; and
- Energy use (39% of Total Final Energy Consumption in Ireland in 2012 was taken up by transport, the largest take up of any sector)[22].

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable

[21] EPA (2014) Ireland's Greenhouse Gas Emissions in 2012

[22] Sustainable Energy Ireland (2014) *Energy in Ireland 1990-2012*

modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development – and its associated impacts – can be minimised and the cost of service provision can be reduced.

Flooding - see Section 4.6.6 - is influenced by climatic factors.

4.7.2 Ambient Air Quality

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

The principles to this European approach are set out in the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) (which replaces the earlier Air Quality Framework Directive 1996 and the first, second and third *Daughter Directives*; the fourth *Daughter Directive* will be included in CAFE at a later stage).

The CAFE Directive:

- Sets new air quality objectives for $PM_{2.5}$ (fine particles) including the limit value and exposure related objectives;
- Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values; and
- Allows the possibility for time extensions of three years (PM_{10}) or up to five years (NO_2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.

The fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

The CAFE Directive was transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). It replaces the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999.

The fourth Daughter Directive was transposed into Irish legislation by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009).

In order to apply with European Directives relating to air quality, the EPA manages the National Ambient Air Quality Network and measures the levels of a number of atmospheric pollutants at locations across the country. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002). The main areas defined in each zone are:

- Zone A: Dublin Conurbation.
- Zone B: Cork Conurbation.
- Zone C: Other cities and large towns including 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.
- Zone D: Rural Ireland, i.e. the reminder of the State – small towns and rural areas of the country – excluding Zones A, B and C.

Most of County Tipperary is in Zone D. Clonmel is in Zone C.

The EPA's (2016) *Air Quality in Ireland 2015* identifies that:

- Overall, air quality in Ireland compares favourably with other EU Member States;
- Reducing levels of particulate matter, both PM_{10} and $PM_{2.5}$, and ozone to below those recommended by the WHO Air Quality Guidelines is a challenge;
- As the improvement in the Irish economy continues compliance with EU legislation for pollutants emitted from car exhausts will pose a challenge;
- Economic activity will likely be mirrored by increases in NO_x emissions, particularly in urban areas; and
- City centre and urban monitoring sites in Ireland are approaching EU limit

values for NO_2, and it is probable that we will see limit value exceedances in the near future unless mitigation steps are taken.

4.7.3 Existing Problems

Legislative objectives governing air and climatic factors were not identified as being conflicted with in County Tipperary.

4.8 Material Assets

4.8.1 Water Services

4.8.1.1 Irish Water

Since January 2014, Irish Water is the State body responsible for the delivery, integration and implementation of strategic water and waste water projects and infrastructural improvements. Tipperary County Council no longer has a direct role in this area; however the Local Authority will work with Irish Water to ensure that the Development Plan and any water services investment plan will align.

The function and role of Irish Water includes:

- Abstracting and treating water;
- Delivering water and waste water services to homes and businesses;
- Installing water meters and billing domestic and business customers;
- Raising finance to fund improvements and repairs in the water system; and
- Maintaining and operating the water system.

The upgrading of infrastructure will contribute towards compliance with the Water Framework Directive, EU Urban Waste Water Treatment Directive and Drinking Water Regulations and will help to protect human health and maintain the quality of surface and ground waters.

4.8.1.2 Water Services Demand and Capacity Information

Information for Tipperary from the EPA's (2015) *Urban Waste Water Treatment in 2014 Report* is provided at Table 4.1[23]. Waste water treatment plants at most settlements have passed the relevant effluent quality and/or sampling standards however Cloughjordan and Mullinahone fail due to quality issues.

Appendix II (*More Detail on Assessment of Individual Settlement Plans*) contains more detail on waste water infrastructural issues such as network capacity constraints.

Emerging information, including that provided at the internal County Council cross-Departmental Workshops, has identified potential waste water treatment capacity issues at the following settlements: Ardfinnan, Ballyclerihan, Kilsheelan, Newcastle, Ballina, Cloughjordan, Newport, Puckaun, Silvermines, Toomevara, Bansha, Boherlahan, Dundrum, Golden, Limerick Junction, Lisvarrinane, Ballingarry, Mullinahone, Lisronagh, Ardcroney, Dromineer, Rearcross, Lattin, Monard, Grangemockler, Ballylooby, Goatenbridge, Grange (Clonmel), Aglish, Ballinahinch, Ballinderry, Ballingarry NT, Ballinaclough, Birdhill, Carrig, Carrigahorig, Dolla, Garykennedy, Kilbarron, Kilcommon, Kileen, Kiloscully, Boher, Kilross, Rossadrehid, Rossmore, Solohead, Thomastown, Toem, Moyglass, Ballycahill, Castleiney, Clonakenny, Drom, Drumbane, Gortagarry, Horse and Jockey, Knock, Moycarkey, Moyne and The Ragg. These potential issues include the absence of a municipal waste water treatment plant, significantly limited waste water treatment capacity or significant waste water treatment network issues.

4.8.1.3 Drinking Water

Drinking water must be clean and wholesome. That means it must meet the relevant water quality standards and must not contain any other substance or micro-organism in concentrations or numbers that constitute a potential danger to human health.

Compliance with the drinking water requirements is determined by comparing the results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis.

Under Section 58 of the Environmental Protection Agency (EPA) Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered

[23] Roscrea is highlighted on this table as Irish Water considers the nitrogen requirement to be overly stringent for this plant and has indicated that it will apply to the EPA for a review of this requirement.

by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports which are supported by Remedial Action Lists (RALs). The RAL identifies water supplies which are not in compliance with the Regulations mentioned above. Three water supplies in County Tipperary on the most recent RAL (Q3 of 2017) include:

- Carrick-on-Suir (Crotty's Lake) – due to inadequate treatment for Cryptosporidium
- Carrick-on-Suir (Lingaun River) - due to excessive levels of aluminium in the treated water
- Clonmel Poulavanogue - due to inadequate treatment for Cryptosporidium

The RAL specifies measures to be taken to help to fix these issues.

The EPA's 'The Provision and Quality of Drinking Water in Ireland' (EPA, 2015) report identifies that:

- Microbiological compliance levels in PWSs in Tipperary were 99.9% in 2014; and
- Chemical compliance levels were 99.4% in 2014.

4.8.2 Waste Management

For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands and Connacht-Ulster. Waste management plans for the three regions came into force in 2015. The EPA publishes data on waste generation and management in the National Waste Report and bulletins. The most recent National Waste Report was published in August 2014, reporting waste information for 2012, identified that in 2012, Ireland achieved all its EU obligations across a broad range of waste legislation.

4.8.3 Existing Problems

There are a number of compliance issues with respect to water services requirements at settlements in the County – these are detailed above and accompanied by further information on water services presented in Appendix II *More Detail on Assessment of Individual Settlement Plans*.

Table 4.1 Information for Tipperary from the EPA's (2016) *Urban Waste Water Treatment in 2015 Report*

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballina-Killaloe	D0189-01	Pass			3,475	4,500	Secondary & P removal	River		
Cahir	D0167-01	Pass			4,679	5,000	Secondary & P removal	River		
Carrick-on-Suir	D0148-01	Pass			8,924	11,000	Secondary with N & P removal	Estuarine	✓	
Cashel	D0171-01	Pass			10,916	9,000	Secondary & P removal	River		
Clonmel	D0035-01	Pass			32,144	80,000	Secondary with N & P removal	River	✓	Pass
Fethard	D0164-01	Pass			4,540	3,000	Secondary & P removal	River		
Nenagh	D0027-01	Pass			17,986	18,000	Secondary & P removal	River	✓	Pass
Roscrea	D0025-01	Pass			14,658	26,000	Secondary & P removal	River	✓	Pass
Templemore	D0190-01	Pass			2,146	6,000	Secondary & P removal	River		
Thurles	D0026-01	Pass			11,534	15,000	Secondary & P removal	River	✓	Pass
Tipperary	D0146-01	Pass			10,103	9,800	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ardfinnan	D0311-01	Pass			1,303	1,100	Secondary & P removal	River		
Ballyclerihan	D0455-01	Pass			572	2,000	Secondary & P removal	River		
Borrisokane	D0326-01	Pass			1,217	1,500	Secondary & P removal	River		
Borrisoleigh	D0323-01	Pass			1,133	2,000	Secondary & P removal	River		
Cappawhite	D0440-01	Pass			236	1,750	Secondary & P removal	River		
Clogheen	D0453-01	Pass			521	1,000	Secondary & P removal	River		
Cloughjordan	D0475-01	Pass[65]			238	500	Secondary & P removal	River		

[65] The discharge persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Holycross	D0478-01	Pass			1,198	600	Secondary & P removal	River	✓	
Killenaule	D0443-01	Pass			1,144	1,200	Secondary & P removal	River		
Kilsheelan	D0452-01	Pass			889	1,000	Secondary & P removal	River	✓	
Limerick Junction	D0457-01	Pass			232	500	Secondary	River		
Littleton	D0480-01	Pass			835	1,000	Secondary & P removal	River		
Mullinahone	D0456-01	Fail	Quality	✓	1,177	500	Secondary	River		
Newport	D0325-01	Pass[66]			1,825	1,900	Secondary	River		
Twomileborris	D0474-01	Pass			806	800	Secondary & P removal	River		

4.9 Cultural Heritage

4.9.1 Archaeological Heritage

4.9.1.1 Introduction

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence. As archaeological heritage can be used to gain knowledge and understanding of the past it is of great cultural and scientific importance.

Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface.

Archaeological heritage is protected under various legislation including the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts.

4.9.1.2 Record of Monuments and Places

The National Monument Acts 1930-2004 are the primary legislative framework for the protection of archaeological heritage in Ireland. Through the definition of monuments, historic monuments, and national monuments a wide range of structures and features fall under the remit of these Acts.

The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded Monuments. The term Monument refers to any artificial or partly artificial building or structure, that has been carved, sculptured or worked upon or which appears to have been purposely put or arranged in position. It also includes any, or part of any prehistoric or ancient tomb, grave or burial deposit, or ritual, industrial or habitation site. Monuments that predate 1700 AD are automatically accorded the title Historic Monument. A 'National Monument' is defined in the National Monuments Acts (1930-2004) as a monument or the remains of a monument, the preservation of which is of national importance by reason of the historical, archaeological, traditional, artistic or architectural interest.

As well as extending protection to all known sites, now identified as Recorded Monuments, the National Monuments Acts 1930 – 2004 extends protection to all previously unknown archaeological items and sites that are uncovered through ground disturbance or the accidental discovery of sites located underwater. Where necessary, the Minister with responsibility for Heritage will issue preservation orders to ensure protection is afforded to sites believed to be under threat.

County Tipperary has a wealth of monuments ranging from 6000 year old burial sites to 17th century fortifications. There are currently 8578 protected archaeological monuments on record for County Tipperary. Protected monuments are found in clusters within existing settlements in County Tipperary and in lowland rural areas. Upland areas contain smaller concentrations of protected monuments. Zones of archaeological heritage are found at numerous locations across the county some settlements and within certain rural areas such as Derrygreenagh, Longfordpass South, Kilsheelan and Rock of Cashel.

4.9.2 Architectural Heritage

4.9.2.1 Introduction

Tipperary has a rich and varied architectural heritage which tells the story of our society and the changing lifestyles of a community over time. From large and elaborate buildings such estate houses and castles to the more vernacular traditional buildings such as shops and houses.

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all: structures and buildings together with their

settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

4.9.2.2 Protected Structures

Part IV of the Planning & Development Act requires every development plan to include a record of protected structures (RPS). A 'protected structure' is a structure or a specific feature of the structure as may be specified that a Planning Authority considers to be of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

The placing of a structure on the RPS seeks to ensure that the character and interest of the structure is maintained and any changes or alterations to it are carried out in such a way as to retain and enhance that character and interest. The inclusion of a structure in the RPS confers certain responsibilities upon the owner of the structure and requires that planning permission be sought for any changes or alterations to the structure. The definition of a 'structure' or 'a specified part of a structure' for the purpose of the RPS includes "the interior of the structure; the land lying within the curtilage of the structure; any other structures lying within the curtilage of that structure and their interiors; and all fixtures and features which form part of the interior or exterior of the structure". From the date of notification of an intention to include a structure in the RPS, the owner has a duty to protect that structure from endangerment. The Council may, on receipt of a written request from the owner or occupier of a protected structure, issue a declaration under Section 57 of the Planning and Development Act 2000 (as amended), outlining certain works it considers would not materially affect the character and interest of the protected structure and which are, therefore, exempted from the requirement for planning permission. Any works that would materially affect the character and interest of a structure require planning permission. In general works to a protected structure should comply with the guidelines as set out in the Architectural Heritage Protection Guidelines from the Department.

Figure 4.17 maps the location of entries to the Record of Protected Structures within County Tipperary. Protected structures are found in clusters within existing settlements in County Tipperary and in lowland rural areas. Upland areas contain smaller concentrations of protected structures.

Entries to the Record of Protected Structures occur in the majority of settlements being considered by the Variations.

4.9.2.3 National Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) is a State initiative under the administration of the Department of Arts, Heritage and the Gaeltacht and was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for the Environment, Heritage and Local Government to the local authorities for the inclusion of particular structures in their RPS.

Figure 4.17 maps the location of entries to the NIAH within County Tipperary. Entries to the NIAH are found in clusters within existing settlements in County Tipperary and in lowland rural areas. Upland areas contain smaller concentrations of this architectural heritage designation.

4.9.2.4 Architectural Conservation Areas

In accordance with Section 81 of the Planning and Development Act, Development Plans are required to include an objective to preserve the character of a place, area, group of structures or townscape, taking account of building lines and heights, that:

a) is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or
b) contributes to the appreciation of protected structures,

if the Planning Authority is of the opinion that its inclusion is necessary for the preservation of the character of the place, area, group of structures or townscape

concerned and any such place, area, group of structures or townscape shall be known as an “Architectural Conservation Area” (ACA).

An ACA may or may not include Protected Structures. In an ACA, protection is placed on the external appearance of such areas or structures.

ACAs in County Tipperary are indicated on Figure 4.17 including those at Ahenny, Ballinure, Borrisokane, Borrisoleigh, Cahir, Cappawhite, Carrick-On-Suir, Cashel, Clogheen, Clonmel, Cloughjordan, Emly, Killenaule, Marlfield, Nenagh, Newcastle, Newport, Ninemilehouse, Riverstown, Roscrea, Silvermines, Templemore, Thurles and Tipperary.

4.9.3 Existing Problems

The context of archaeological and architectural heritage has changed over time however no existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

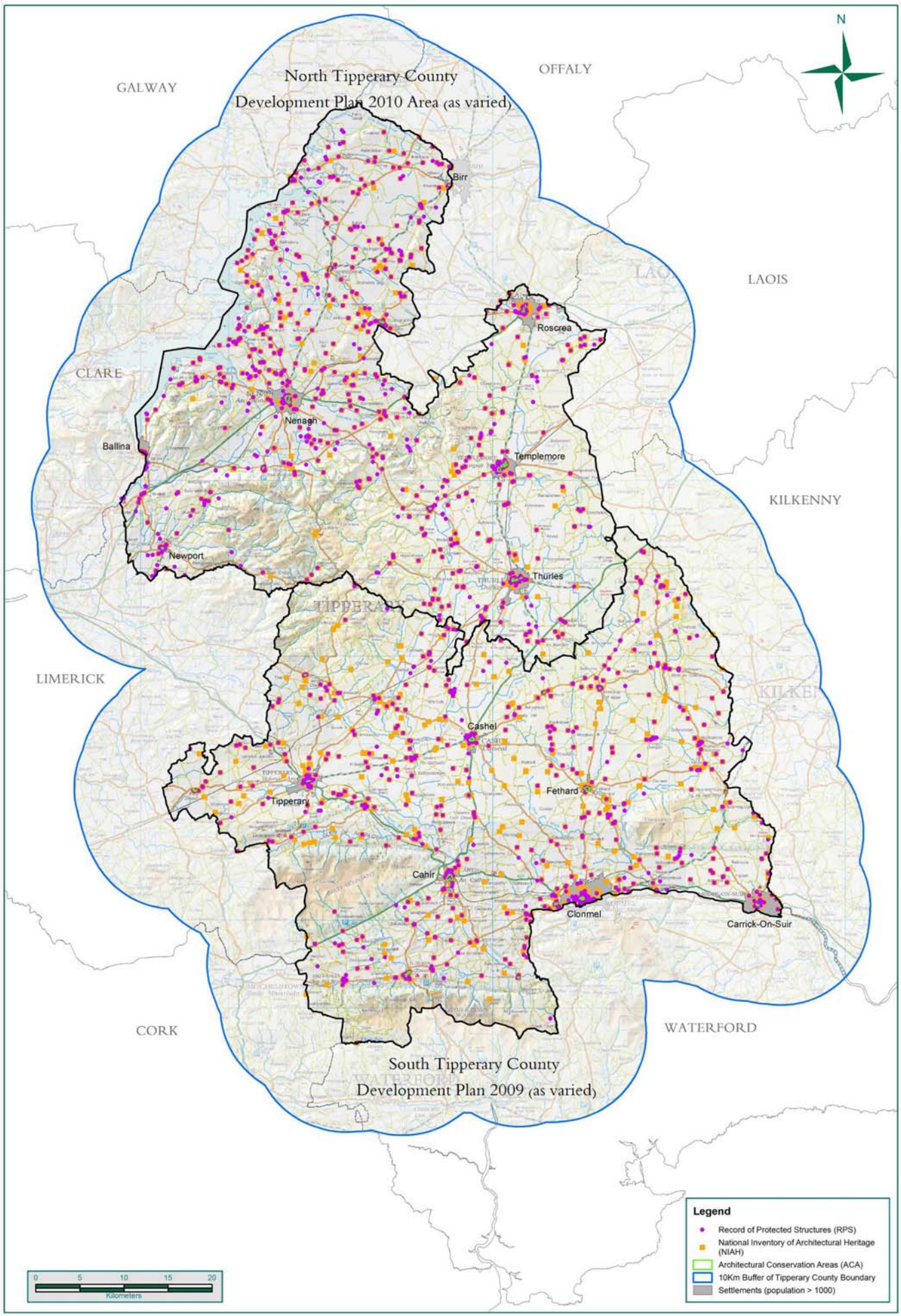

Figure 4.17 Architectural Heritage

4.10 Landscape

4.10.1 Introduction

Landscapes are areas which are perceived by people and are made up of a number of layers: landform, which results from geological and geomorphological history; landcover, which includes vegetation, water, human settlements, and; human values which are a result of historical, cultural, religious and other understandings and interactions with landform and landcover.

4.10.2 Legislation

The importance of landscape and visual amenity and the role of its protection are recognised in the Planning and Development Act 2000 as amended, which requires that Development Plans include objectives for the preservation of the landscape, views and the amenities of places and features of natural beauty.

4.10.3 Landscape Sensitivities

Sensitive landscapes within County Tipperary with following characteristics are mapped on Figure 4.18:

- Areas which have a slope which is greater than or equal to 15 degrees;
- Areas which have an elevation of 200m;
- Areas which are underlain by certain soils indicative of landscape sensitivity (acid shallow well drained mineral soil, blanket bog, cutover peat, lacustrine sediment and scree); and
- Areas which are identified as belonging particular CORINE landcover categories (continuous urban fabric, discontinuous urban fabric, broad leaved forest, mixed forest, natural grassland, moors and heathland, transitional woodland scrub, inland marshes, peat bogs and water bodies).

Figure 4.18 also maps these landscape sensitivities in the seven counties with which County Tipperary shares its county boundary with (including those for counties Clare, Galway, Offaly, Laois, Kilkenny, Waterford and Limerick).

Sensitive areas within County Tipperary include the uplands and foothills of the Silvermines Mountains, Arra Mountains and the Devils Bit in the north of the County, the Slieveardagh Hills and Slievenamon in the east and southeast of the County and the Galtee and Knockmealdown Mountains in the west and south of the County. These areas are sensitive due to their elevation, slope, vegetation and soils.

Other sensitive areas include Lough Derg and those which contain peatlands and other semi-natural habitats in lowland areas, including in the north and east of the County, and urban and semi urban areas.

4.10.4 Protected Views

Views listed and protected in Tipperary through the County Development Plans (as varied) include views of key heritage sites and along scenic tourism routes. Such listed views will inform lower tier project assessments and design.

4.10.5 Existing Problems

Primary and subsequent ecological succession and new developments have resulted in changes to the visual appearance of landscapes within County Tipperary overtime however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

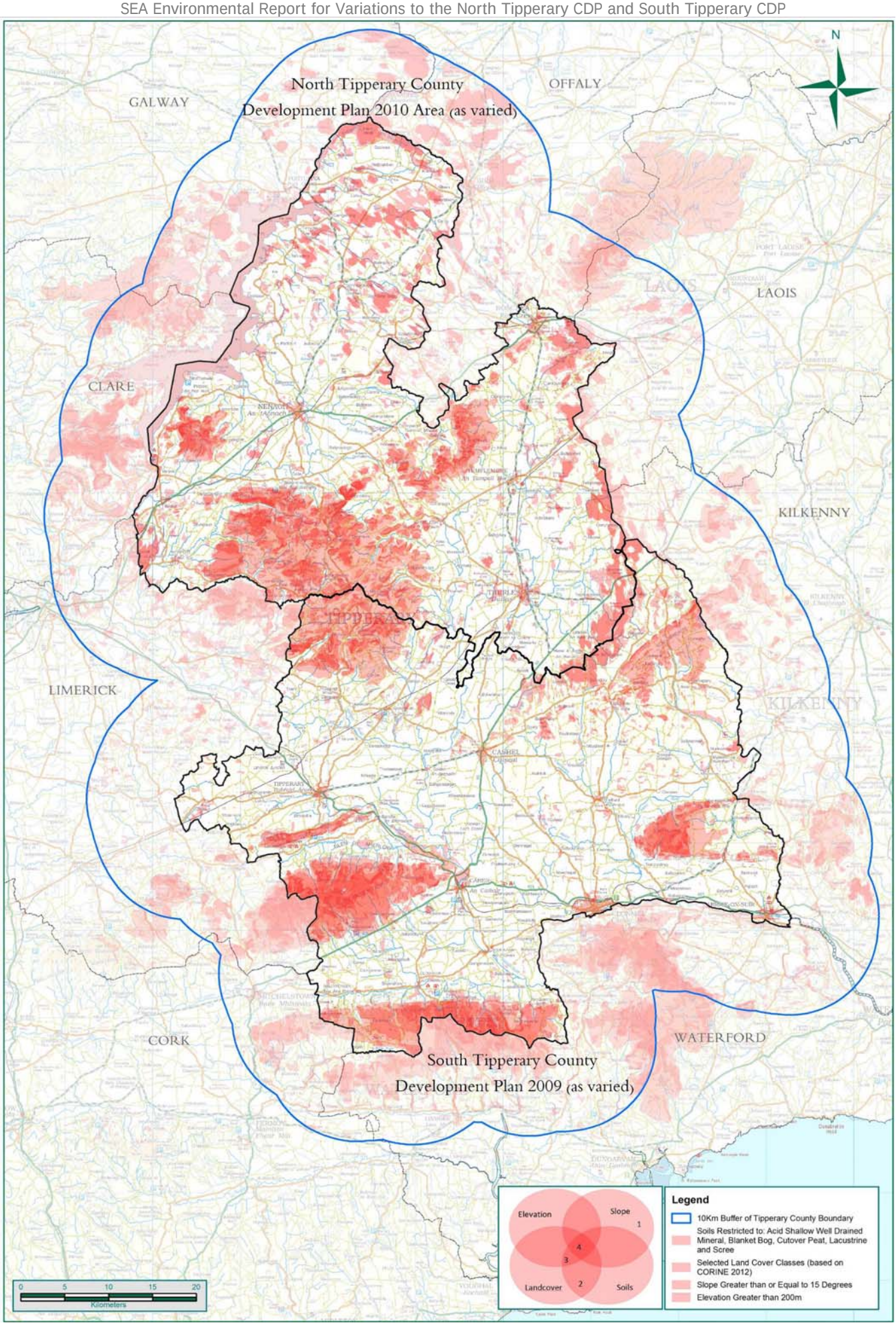

Figure 4.18 Landscape Sensitivities

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Variation and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

The SEOs are linked to indicators which can facilitate monitoring the environmental effects of the Plan as varied as well identifying targets which the Plan can help work towards.

All SEOs, indicators and targets are provided on Table 5.1 overleaf while background to these measures is provided in the subsections below.

Further detail on legislation, plans and programmes are provided under Section 2 (and associated Appendix I ‘‘Relationship with Legislation and Other Plans and Programmes’’) and Section 4.

Table 5.1 Strategic Environmental Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objective(s)	Selected Indicator(s)	Selected Target(s)
Biodiversity, Flora and Fauna	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[24]	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Plan as varied[25]
	B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan as varied	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Plan as varied
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan as varied B3ii: Number of significant impacts on the protection of listed species	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan as varied B3ii: No significant impacts on the protection of listed species
Population and Human Health	PHH1: To protect populations and human health from exposure to incompatible landuses	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan as varied, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan as varied
Soil	S1: To avoid damage to the hydrogeological and ecological function of the soil resource	S1i: Soil extent and hydraulic connectivity	S1i: To minimise reductions in soil extent and hydraulic connectivity
Water	W1: To maintain and improve, where possible, the quality and status of surface waters	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve *good status*[26]

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

[25] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) no alternative solution available;
(b) imperative reasons of overriding public interest for the plan to proceed; and
(c) adequate compensatory measures in place.

[26] Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA:

- *Q4* in the biological classification of *rivers*; and
- Mesotrophic in the classification of lakes.

Environmental Component	Strategic Environmental Objective(s)	Selected Indicator(s)	Selected Target(s)
	W2: To prevent pollution and contamination of ground water	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
	W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with *The Planning System and Flood Risk Management Guidelines for Planning Authorities*
Material Assets	M1: To serve new development with adequate and appropriate waste water treatment	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan as varied	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan as varied
	M2: To serve new development with adequate drinking water that is both wholesome and clean	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan as varied	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan as varied
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers
Air and Climatic Factors	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means
Cultural Heritage	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) - protected from significant adverse effects arising from new development granted permission under the Plan as varied	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from significant adverse effects arising from new development granted permission under the Plan as varied
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan as varied	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan as varied
Landscape	L1: To minimise significant adverse visual impacts	L1: Number of complaints received from statutory consultees regarding avoidable adverse visual impacts on the landscape resulting from development which is granted permission under the Plan as varied	L1: No developments permitted which result in avoidable adverse visual impacts on the landscape resulting from development which is granted permission under the Plan as varied

Section 6 Description of Alternatives

6.1 Introduction

As per the requirements of the SEA Directive, this SEA considers reasonable alternatives, which are capable of being implemented for the Variation, taking into account the objectives and the geographical scope of the Plan.

An evaluation of alternatives is provided at Section 7.

6.2 Need for Proposed Variation

Having consideration to the single administrative area of Tipperary, created as a result of the amalgamation of the two counties and the material differences in the existing North and South Tipperary County Development Plans, it has been decided to vary both of the existing Plans in order to make them consistent with each other and with all relevant and current, national and regional planning and environmental guidance and legislation. With this in mind Tipperary County Council varied the North and South Tipperary Development Plans in order to harmonise policies through a new 'written statement' (Variation No. 2). Another Variation (No. 3) was made to integrate a renewable energy strategy into the Plans. The next step in policy harmonisation is the preparation of new settlement plans through a Variation process to each of the Development Plans.

The North and South Tipperary County Development Plans provide for zoning and development objectives for each town and village across the County (with the exception of those covered by Town Plans or LAPs). There are 116 settlements that are part of the Variation, each with specific zonings and development objectives. The key objective of the Variations is to ensure that these zonings and/or objectives provide a development framework which is fit for purpose for the future development of the individual towns and villages which is cognisant of the needs of the residents while protecting and preserving the character, heritage and amenity of these communities and making a positive contribution and improvement to the population's quality of life.

6.3 Identification of where Alternatives are available

In the first instance, each settlement was assessed to determine whether the consideration of alternatives was relevant. There are four different types of circumstances in this regard and these are detailed below:

1. Alternatives not Applicable

This category applies to settlements where the variation generally proposes to continue the type, location and extent of existing land-use zoning or designations.

2. Alternative not Available

This category applies to settlements where alternatives are not available due to factors that cannot be readily or reasonably altered; including, but not limited to, the existing configuration of roads, water services, existing built fabric or environmental constraints.

3. Alternatives not Significant

This category applies to settlements where the variation proposes clarifications or additional that will not modify the type, location and extent of existing land-use zoning or designations.

4. Assessable Alternatives

This category applies to settlements where alternatives of layout, location, type, phasing or density exist.

Table 6.1 (below) examines the need for alternative plans for each settlement to be assessed. Where the assessment determines that there is an 'Assessable Alternative' then this is examined in further detail in Section 7 of this report.

Table 6.1 Screening for need to consider Alternatives

Town Name	Alternatives	Criteria used to assess need to examine Alternatives			
		1. Alternatives not Applicable?	2. Alternative not Available?	3. Alternatives not Significant?	4. Assessable Alternatives?
Service Centres and Local Service Centres					
Ardfinnan	Density				yes
Ballyclerihan	Reduction in area zoned				yes
Ballyporeen	Flood risk management considerations (zoning) and reduction in area zoned				yes
Clogheen	Flood risk management considerations (zoning) and reduction in area zoned				yes
Kilsheelan	Density				yes
New Inn	Not applicable; continue existing	yes			
Newcastle	Not applicable; continue existing	yes			
Ballina	Flood risk management considerations (zoning)				yes
Borrisokane	Consolidation				yes
Cloughjordan	Phasing and flood risk management considerations (zoning) and phasing				yes
Newport	Flood risk management considerations (zoning)				yes
Newtown	Density/Uses by replacing Lower Density Residential with Town Centre				yes
Portroe	Not applicable; continue existing	yes			
Puckaun	Not applicable; continue existing	yes			
Silvermines	Not applicable; continue existing	yes			
Toomevara	Reduction in area zoned				yes
Bansha	Permissible uses for Business and Enterprise zoned lands				yes
Boherlahan	Not applicable; continue existing	yes			
Cappawhite	Reduction in area zoned				yes
Dundrum	Flood risk management considerations (zoning) and water services				yes
Emly	Not applicable; continue existing	yes			
Golden	Flood risk management considerations (zoning) and reduction in area zoned				yes
Hollyford	Not applicable; continue existing	yes			
Limerick Junction	Only encourage dry industry unless WWTP upgraded			yes	
Lisvarrinane	Only encourage dry industry			yes	
Killenaule	Not applicable; continue existing	yes			
Mullinahone	Not applicable; continue existing	yes			
Ballingarry (Service Centre)	Reduction in area zoned				yes
Borrisoleigh	Flood risk management considerations (zoning)				yes
Gortnahoe	Not applicable; continue existing	yes			
Holycross	Not applicable; continue existing	yes			
Littleton	Zoning of areas at elevated levels of flood risk was considered as a possible alternative however it was determined that these areas were outside of the Plan boundary	yes			
Templetuohy	Not applicable; continue existing	yes			
Twomileborris	Flood risk management considerations (zoning)				yes

Town Name	Alternatives	Criteria used to assess need to examine Alternatives			
		1. Alternatives not Applicable?	2. Alternative not Available?	3. Alternatives not Significant?	4. Assessable Alternatives?
Burncourt	Not applicable; continue existing	yes			
Lisronagh	Phasing				yes
Ardcroney	Not applicable; continue existing	yes			
Dromineer	Not applicable; continue existing	yes			
Lorrha	Not applicable; continue existing	yes			
Rathcabban	Not applicable; continue existing	yes			
Rearcross	Reduction in area zoned				yes
Terryglass	Integrated tourism zoned lands				yes
Annacarthy	Not applicable; continue existing	yes			
Clonoulty	Not applicable; continue existing	yes			
Donaskeagh	Not applicable; continue existing	yes			
Donohill	Not applicable; continue existing	yes			
Kilfeacle	Not applicable; continue existing	yes			
Lattin	Reduction in area zoned				yes
Monard	Not applicable; continue existing	yes			
Ballynonty	Not applicable; continue existing	yes			
Ballypatrick	Not applicable; continue existing	yes			
Cloneen	Not applicable; continue existing	yes			
Drangan	Reduction in area zoned				yes
Dualla	Not applicable; continue existing	yes			
Glengoole	Reduction in area zoned				yes
Grangemockler	Not applicable; continue existing	yes			
Rosegreen	Not applicable; continue existing	yes			
The Commons	Not applicable; continue existing	yes			
Ballysloe	Not applicable; continue existing	yes			
Upperchurch	Not applicable; continue existing	yes			
Cullen	Not applicable; continue existing	yes			
Faugheen	Not applicable; continue existing	yes			
Kilcash	Reduction in area zoned				yes
Clonmore	Not applicable; continue existing	yes			
Nodes					
Ballylooby	Not applicable	yes			
Goatenbridge	Not applicable	yes			
Grange (Carrick)	Not applicable	yes			
Grange (Clonmel)	Reduction in boundary				yes
Marlfield	Not applicable	yes			
Aglish	Not applicable	yes			
Ballinahinch	Not applicable	yes			
Ballinderry	Reduction in boundary				yes
Ballingarry (node)	Reduction in boundary				yes
Ballycommon	Not applicable	yes			
Ballinree	Reduction in boundary				yes
Ballinaclough	Not applicable	yes			
Birdhill	Not applicable	yes			
Carrig	Not applicable	yes			
Carrigahorig	Not applicable	yes			
Dolla	Not applicable	yes			
Garykennedy	Not applicable	yes			
Kilbarron	Not applicable	yes			
Kilcommon Upper	Reduction in boundary				yes
Kileen	Not applicable	yes			
Kiloscully	Not applicable	yes			
Riverstown	Not applicable	yes			
Templederry	Not applicable	yes			
Boher	Not applicable	yes			
Ballagh	Not applicable	yes			
Gouldscross	Not applicable	yes			
Kilross	Not applicable	yes			
Knockavilla	Not applicable	yes			

Town Name	Alternatives	Criteria used to assess need to examine Alternatives			
		1. Alternatives not Applicable?	2. Alternative not Available?	3. Alternatives not Significant?	4. Assessable Alternatives?
Rossadrehid	Not applicable	yes			
Rossmore	Not applicable	yes			
Solohead	Not applicable	yes			
Thomastown	Not applicable	yes			
Toem	Not applicable	yes			
Ahenny	Not applicable	yes			
Ballinure	Not applicable	yes			
Ballyneill	Not applicable	yes			
Killusty	Reduction in boundary				yes
Moyglass	Not applicable	yes			
Ninemilehouse	Not applicable	yes			
Ballycahill	Reduction in boundary				yes
Castleiney	Not applicable	yes			
Clonakenny	Reduction in boundary				yes
Drom	Reduction in boundary				yes
Drumbane	Reduction in boundary				yes
Gortagarry	Not applicable	yes			
Horse & Jockey	Reduction in boundary				yes
Knock	Reduction in boundary				yes
Loughmore	Reduction in boundary				yes
Moycarkey	Not applicable	yes			
Moyne	Not applicable	yes			
Killea	Not applicable	yes			
The Ragg	Not applicable	yes			

Settlements where the conditions described in option 4 “Assessable Alternatives” occur were deemed to require an assessment of alternatives in 38 circumstances. In all other 78 circumstances alternatives were deemed to be not applicable, available or significant. Settlements requiring a consideration of alternatives are listed on Table 6.2 below.

Table 6.2 Settlements for which Assessment of Alternatives is required

No.	Service Centres and Local Service Centres	Nodes
1	Ardfinnan	Grange (Clonmel)
2	Ballyclerihan	Ballinderry
3	Ballyporeen	Ballingarry (node)
4	Clogheen	Ballinree
5	Kilsheelan	Kilcommon Upper
6	Ballina	Killusty
7	Borrisokane	Ballycahill
8	Cloughjordan	Clonakenny
9	Newport	Drom
10	Newtown	Drumbane
11	Toomevara	Horse & Jockey
12	Bansha	Knock
13	Cappawhite	Loughmore
14	Dundrum	
15	Golden	
16	Ballingarry (Service Centre)	
17	Borrisoleigh	
18	Twomileborris	
19	Lisronagh	
20	Rearcross	
21	Terryglass	
22	Lattin	
23	Drangan	
24	Glengoole	
25	Kilcash	

Section 7 Evaluation of Alternatives

7.1 Introduction

This section provides an evaluation of the environmental effects of implementing the alternatives including the taking into account of cumulative effects.

7.2 Methodology

The relevant aspects of the current state of the environment (see Section 4) and the Strategic Environmental Objectives (see Section 5 and Table 7.1) are used in the evaluation of alternatives.

The alternatives are evaluated using compatibility criteria (see Table 7.2 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternatives are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[27]'.

The interactions identified are reflective of likely significant environmental effects[28]:

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates. The extent of positive effects which would be likely to occur varies and there are three 'likely to improve columns' (see Table 7.2).
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects could be mitigated. The extent to which effects could be mitigated varies and there are three 'likely to be mitigated columns' (see Table 7.2).
3. Interactions that would probably conflict with the status of an SEO and would be unlikely to be fully mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.

The degree to which effects can be determined is limited as the Proposed Variation will be implemented through the lower tier environmental assessments and/or decision making of the Council. Nonetheless a comparative evaluation of the various alternatives can be provided.

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

[28] These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 7.1 Strategic Environmental Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objective(s)
Biodiversity, Flora and Fauna	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[29]
	B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species
Population and Human Health	PHH1: To protect populations and human health from exposure to incompatible landuses
Soil	S1: To avoid damage to the hydrogeological and ecological function of the soil resource
Water	W1: To maintain and improve, where possible, the quality and status of surface waters
	W2: To prevent pollution and contamination of ground water
	W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities
Material Assets	M1: To serve new development with adequate and appropriate waste water treatment
	M2: To serve new development with adequate drinking water that is both wholesome and clean
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Air and Climatic Factors	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
Cultural Heritage	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context
Landscape	L1: To minimise significant adverse visual impacts

Table 7.2 Criteria for appraising the effect of Alternatives on SEOs

Likely to Improve status of SEOs to **the Greatest** degree	Likely to **Improve** status of SEOs to a M**oderate** degree	Likely to **Improve** status of SEOs to a **lesser** degree	**Least Potential Conflict** with status of SEOs- likely to be mitigated	**Moderate Potential Conflict** with status of SEOs- likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No significant interaction** with status of SEOs

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

7.3 Cumulative Effects

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

There are 2 types of potential cumulative effects that have been considered, namely:

- Potential *intra-Plan* cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a plan, programme, etc. Where there are elevated levels of environmental sensitivities, future development could result in environmental conflicts and lead to a deterioration in environmental integrity. The interrelationships between environmental components that help determine these potential effects are identified on Table 8.2 in Section 8 e.g. interrelationships between: human health and water quality; human health and air quality; human health and flood risk; and ecology and water quality.

  Other types of *intra-Plan* cumulative effect that could occur include:

  - In combination effects arising from development at multiple settlements that are the subject of settlement plans provided for by the Proposed Variation; and
  - Effects arising from development provided for by the Proposed Variation in combination with effects arising from development provided for by other parts of the existing Development Plan;

- Potential *inter-Plan* cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc.

Effects that may arise as a result of implementing the Proposed Variation as varied have been mitigated (by both provisions integrated into the Proposed Variation and existing provisions already in force through the County Development Plans – see Section 9) to the extent that the only residual adverse effects likely to occur as a result of implementation of the Proposed Variation are those which are identified at Table 8.1.

With regard to potential ***inter-Plan*** cumulative environmental effects, these occur as a result of the combination of: potential environmental effects which are identified by the assessment; and the effects arising from other legislation, plans, programmes or developments.

In considering the relationship with legislation and other plans and programmes it is important to note that the Plan will be implemented within areas that have existing plans and programmes (see Sections 2.3, 4 and 5 and Appendix I) for a range of sectors at a range of levels (e.g. National, River Basin District, Regional, County and Local) that are already subject to more specific higher and lower tier SEA and AA.

The assessment of the likely *inter-Plan* cumulative environmental effects requires knowledge of the likely effects of all plans/developments under consideration. The assessment is limited in this instance as there has been limited assessment of the likely types of developments provided for by other policies, plans and programmes that could occur in combination with the implementation of the Proposed Variation. Where they exist, the SEA recognises the existence of other environmental assessments with a view to avoid duplication of assessment, in compliance with the SEA Directive.

The SEA undertaken for the Plan has taken account of the Council's obligation to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Cumulative effects that have been considered include those resulting from the Variations and:

- Other land use Plans (e.g. Galway, Clare, Limerick, Cork, Waterford, Kilkenny, Laois and Offaly and lower tier land use plans within and adjacent to County Tipperary);
- Water services, transport and energy infrastructure plans (e.g. Irish Water's Water Services Strategic Plan and associated Capital Investment Plan 2014-2016 and Grid25 and associated Implementation Programme) and the County Tipperary Local Economic and Community Plan; and
- Environmental protection and management plans (e.g. Shannon International, South-Western and South-Eastern River Basin Management Plans and flood risk management plans).

Such potential cumulative effects include the following (note that potential adverse cumulative effects will be mitigated by both provisions integrated into the Variations and existing provisions already in force through the County Development Plans – see Section 9):

- Contributions towards reductions in travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of facilitating sustainable mobility/a shift from motorised transport modes to more sustainable and non-motorised transport modes.
- Contributions towards travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of facilitating development which must be accompanied by road capacity.
- Facilitation of new development which is accompanied by appropriate levels of water services thereby contributing towards environmental protection.
- Need for and use of water and waste water treatment capacity arising from new developments and associated potential adverse effects.
- Potential cumulative effects upon surface and ground water status as a result of housing, employment, agricultural and forestry – loadings and abstractions;
- Potential cumulative effects (habitat damage, enhancing ecological connectivity, contributing towards sustainable mobility) arising from linear developments, such as those relating to Green Infrastructure, including beyond the County border;
- Potential cumulative effects on flood risk by, for example, development of greenfield lands or obstruction of flood paths adjacent to the County border;
- In combination with plans and programmes from all sectors potential adverse effects on all environmental components arising from all development in greenfield and brownfield areas (e.g. infrastructural, residential, economic, agricultural etc.). The type of these effects are consistent with those described on Table 7.3. These plans and programmes from other sectors undergo SEA and comply with environmental legislation while projects are subject to EIA and AA, as relevant.

A variety of the issues covered by the Variations provisions are regional issues which are considered: at Regional Assembly level, in the Regional Planning Guidelines and by planning authorities across the Region. The solutions to these issues are often regional solutions which are subject their own consenting procedures. Works arising outside of the Variations as a result of providing for new development within the Variations area including those arising as a result of the cumulative provision of development in the wider region would potentially conflict with a number of environmental components, across the wider region and beyond, including: ecology, soil function, the status of water bodies and the landscape. Some of these conflicts would be mitigated by measures which will be integrated into the Plan, as varied, while some will be mitigated by measures arising out of separate consent procedures.

7.4 Detailed Assessment of Alternatives

7.4.1 Significant Positive Effects Common to all Alternatives

By providing for development within existing development boundaries and facilitating the use of existing utilities and brownfield sites, all alternatives would be likely to contribute towards a reduced need to develop more sensitive, undeveloped areas elsewhere in the wider County that are further from established settlements and less well serviced. This would be likely to result in significant positive environmental effects on the following environmental components:

- Biodiversity and flora and fauna
- Population and human health
- Soil (especially soil on greenfield lands)
- Water (status of rivers and groundwater)
- Flood risk
- Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases)
- Material Assets (provision of adequate and appropriate waste water and drinking water services and waste management)
- Cultural Heritage (architectural and archaeological heritage)
- Amenities

Although significant positive environmental effects would occur under each of the alternatives, the extent to which they would occur varies across each of the alternatives and this is addressed under the evaluation of each of the alternatives below.

7.4.2 Potentially Significant Adverse Effects Common to all Alternatives

All of the alternatives provide for development of the relevant settlements. Such development would have the potential to conflict with environmental components – to different degrees. Potentially significant adverse environmental effects arising from this conflict are common to all alternatives and are described on Table 7.3. For the Variations, these effects will be mitigated by both provisions integrated into the Variations and existing provisions already in force through the County Development Plans – see Section 9.

Although potentially significant adverse environmental effects would occur under each of the alternatives, the extent to which they would occur varies across each of the alternatives and this is addressed under the evaluation of each of the alternatives below.

Table 7.3 Potentially Significant Adverse Environmental Effects common to all alternatives

Environmental Component	Potential Effect
Biodiversity and Flora and Fauna	o Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna o Habitat loss, fragmentation and deterioration, including patch size and edge effects. o Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.
Population and Human Health	o Potential interactions if effects upon environmental vectors such as water and air are not mitigated
Soil	o Damage to the hydrogeological and ecological function of the soil resource.
Water	o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. o Increase in the risk of flooding.
Material Assets	o Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts) o Increases in waste levels.
Air and Climatic Factors	o Emissions to air including greenhouse gas emissions and other emissions.
Cultural Heritage	o Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	o Occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape.

7.4.3 Assessment and Selection of Alternatives

Table 7.4 over the following pages assesses the likely effects of each alternative against the Strategic Environmental Objectives (SEOs) detailed on Table 7.1, using the compatibility criteria detailed on Table 7.2. The alternative that is likely to give rise to the least environmental effect is indicated in **emboldened text**. The purpose of this assessment is to contribute to the decision-making process for Plan variation for each settlement where alternatives are available. The **Best** environmental alternative was selected for inclusion as part of the Variations in all circumstances.

Table 7.4 Potentially Assessment and Selection of Alternatives

Town Name	Alternatives (**Best** environmental alternative marked in **bold**)	Likely to Improve status of SEOs to **the Greatest** degree	Likely to **Improve** status of SEOs to a **Moderate** degree	Likely to **Improve** status of SEOs to a **lesser** degree	**Least Potential Conflict** with status of SEOs- likely to be mitigated	**Moderate Potential Conflict** with status of SEOs- likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No significant interaction** with status of SEOs	**Assessment Commentary**
Ardfinnan	**Higher density of residential lands**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			A higher density of development would accommodate more development per site area thereby maximising benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing the need to develop elsewhere would help to avoid potential adverse environmental effects - this would benefit the protection of multiple environmental components.
	Lower density of residential lands	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				A lower density of development would accommodate less development per site area thereby failing to maximise benefits from infrastructural investment. A lower density of development would not avoid unnecessary sprawl of the settlement and would not maximise efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. A lower density of development would fail to avoid potential adverse environmental effects arising from unnecessary development elsewhere.
Ballyclerihan	Variation that does not reduce the amount of land zoned Agriculture			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

Town Name	**Alternatives** (**Best** environmental alternative marked in **bold**)	Likely to Improve status of SEOs to **the Greatest** degree	Likely to **Improve** status of SEOs to a M**oderate** degree	Likely to **Improve** status of SEOs to a **lesser** degree	**Least Potential Conflict** with status of SEOs- likely to be mitigated	**Moderate Potential Conflict** with status of SEOs- likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No significant interaction** with status of SEOs	**Assessment Commentary**
	Variation that reduces the amount of land zoned Agriculture	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Ballyporeen	Variation to zoning that does not integrate flood risk management considerations or reduce zoning in the town			**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health. By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

Town Name	**Alternatives** (**Best** environmental alternative marked in **bold**)	Likely to Improve status of SEOs to **the Greatest** degree	Likely to **Improve** status of SEOs to a M**oderate** degree	Likely to **Improve** status of SEOs to a **lesser** degree	**Least Potential Conflict** with status of SEOs- likely to be mitigated	**Moderate Potential Conflict** with status of SEOs- likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No significant interaction** with status of SEOs	**Assessment Commentary**
	Variation to zoning that integrates flood risk management considerations and reduces zoning in the town	**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**				As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health. By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Clogheen	Variation to zoning that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.
	Variation to zoning that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health. Lands identified as liable to flood have been zoned for amenity purposes. Land zoned new residential to south of village and liable to flood have been de-zoned.
Kilsheelan	**Higher density of residential lands**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			A higher density of development would accommodate more development per site area thereby maximising benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing the need to develop elsewhere would help to avoid potential adverse environmental effects - this would benefit the protection of multiple environmental components.

Town Name	**Alternatives** (**Best** environmental alternative marked in **bold**)	Likely to Improve status of SEOs to **the Greatest** degree	Likely to **Improve** status of SEOs to a M**oderate** degree	Likely to **Improve** status of SEOs to a **lesser** degree	**Least Potential Conflict** with status of SEOs- likely to be mitigated	**Moderate Potential Conflict** with status of SEOs- likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No significant interaction** with status of SEOs	**Assessment Commentary**
	Lower density of residential lands	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				A lower density of development would accommodate less development per site area thereby failing to maximise benefits from infrastructural investment. A lower density of development would not avoid unnecessary sprawl of the settlement and would not maximise efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. A lower density of development would fail to avoid potential adverse environmental effects arising from unnecessary development elsewhere.
Ballina	Variation to zoning that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.
	Variation to zoning that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health.
Borrisokane	Variation to zoning that does not consolidate zoning			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By not consolidating land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. Failure to consolidate zoning would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Not consolidating zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
	Variation to zoning that consolidates zoning including omission of an extent of agricultural lands	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By consolidating land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. Consolidating zoning would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Consolidating zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components.

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Cloughjordan	Variation to zoning that does not integrate flood risk management considerations or phasing			**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health. By not providing for phasing, this alternative would miss an opportunity to help to ensure that infrastructure, services, facilities and amenities are provided together with new development. Phasing could help to contribute towards the timely and appropriate provision of transport/movement infrastructure and services, water services infrastructure and capacity and drainage infrastructure, indirectly contributing towards the protection of various environmental components such as the status of water bodies and ecology. Phasing can help to prevent unnecessary sprawl of the settlement and associated potential adverse environmental effects.
	Variation to zoning that integrates phasing and flood risk management considerations	**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**				This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health. This alternative provides for phasing that would help to ensure that infrastructure, services, facilities and amenities are provided together with new development. This can help to contribute towards the timely and appropriate provision of transport/movement infrastructure and services, water services infrastructure and capacity and drainage infrastructure, indirectly contributing towards the protection of various environmental components such as the status of water bodies and ecology. Phasing can help to prevent unnecessary sprawl of the settlement and associated potential adverse environmental effects.
Newport	Variation to zoning that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.

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	Variation to zoning that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health.
Newtown	**Town Centre uses in centre including provision of higher density**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			A higher density of development would accommodate more development per site area thereby maximising benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing the need to develop elsewhere would help to avoid potential adverse environmental effects - this would benefit the protection of multiple environmental components.
	Lower density Residential uses in centre	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				A lower density of development would accommodate less development per site area thereby failing to maximise benefits from infrastructural investment. A lower density of development would not avoid unnecessary sprawl of the settlement and would not maximise efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. A lower density of development would fail to avoid potential adverse environmental effects arising from unnecessary development elsewhere.
Toomevara	Variation that does not reduce zoning to the west of the town			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces zoning to the west of the town	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Bansha	Variation that does not change Business and Enterprise zoned lands re: permissible uses		**M3 C1 CH1 CH2 L1 W3 PHH1**	**S1 B1 B2 B3 W1 W2 M1 M2**		**M3 C1 CH1 CH2 L1 W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2**		By not specifying the appropriate type of business and enterprise development that would be permitted take place on these lands (taking into account waste water treatment capacity and capacity of receiving water bodies), this alternative does not ensure that the appropriate type of development takes place. As a result, potential impacts upon various environmental components (including human health, biodiversity and flora and fauna and the status of water bodies) would be more likely.
	Variation that changes Business and Enterprise zoned lands re: permissible uses (only dry uses to be considered)	**B1 B2 B3 S1 W1 W2 M1 M2**	**M3 C1 CH1 CH2 L1 W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2**	**M3 C1 CH1 CH2 L1 W3 PHH1**			By only providing for permissible “dry” uses on business and enterprise zoned lands this alternative appropriately zones these lands taking into account waste water treatment capacity and capacity of receiving water bodies. This would contribute towards the protection of various environmental components including human health, biodiversity and flora and fauna and the status of water bodies.
Cappawhite	Variation that does not reduce the amount of land zoned			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the amount of land zoned	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Dundrum	Variation that does not integrate flood risk management considerations or limit development until adequate levels of water services are provided		**M3 C1 CH1 CH2 L1**	**W3 PHH1 S1 B1 B2 B3 W1 W2 M1 M2**		**M3 C1 CH1 CH2 L1**	**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health. By not limiting development until adequate levels of water services are provided this alternative would result in development that cannot be adequately served with waste water treatment capacity – this would reduce the protection of environmental components (including human health, biodiversity and flora and fauna and the status of water bodies).
	Variation that integrates flood risk management considerations and limits development until adequate levels of water services are provided	**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2**	**M3 C1 CH1 CH2 L1**		**W3 PHH1 B1 B2 B3 S1 W1 W2 M1 M2**	**M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health. By limiting development until adequate levels of water services are provided (see also Policy TI7) this alternative would result in development that can be adequately served with waste water treatment capacity – this would help to protect other environmental components (including human health, biodiversity and flora and fauna and the status of water bodies).
Golden	Variation to zoning that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.

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	Variation to zoning that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health. Land zoned new residential to west of village and liable to flood have been zoned agricultural.
Ballingarry (Service Centre)	Variation that does not reduce the amount of land zoned as Residential and Business and Enterprise			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the amount of land zoned as Residential and Business and Enterprise	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Borrisoleigh	Variation that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.
	Variation that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health.

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Twomileborris	Variation that does not integrate flood risk management considerations		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**	**W3 PHH1**		As this alternative does not integrate flood risk management considerations into land use zoning, it would be more likely to result in inappropriate types of development in areas of elevated levels of flood risk. This could interact with the protection of human health.
	Variation that integrates flood risk management considerations	**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**		**W3 PHH1**	**B1 B2 B3 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1**			This alternative would ensure that only appropriate development occurs within areas of elevated levels of flood risk thereby contributing towards flood risk management and the protection of human health.
Lisronagh	Variation to zoning that does not integrate phasing			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By not providing for phasing, this alternative would miss an opportunity to help to ensure that infrastructure, services, facilities and amenities are provided together with new development. Phasing could help to contribute towards the timely and appropriate provision of transport/movement infrastructure and services, water services infrastructure and capacity and drainage infrastructure, indirectly contributing towards the protection of various environmental components such as the status of water bodies and ecology. Phasing can help to prevent unnecessary sprawl of the settlement and associated potential adverse environmental effects.
	Variation to zoning that integrates phasing	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				This alternative provides for phasing that would help to ensure that infrastructure, services, facilities and amenities are provided together with new development. This can help to contribute towards the timely and appropriate provision of transport/movement infrastructure and services, water services infrastructure and capacity and drainage infrastructure, indirectly contributing towards the protection of various environmental components such as the status of water bodies and ecology. Phasing can help to prevent unnecessary sprawl of the settlement and associated potential adverse environmental effects.
Rearcross	Variation that does not reduce the amount of Residential lands zoned			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the amount of Residential lands zoned	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Terryglass	Variation that includes land zoned as Integrated Tourism			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.
	Variation that does not include land zoned as Integrated Tourism	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Lattin	Variation to zoning that does not reduce OSA zoning			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.
	Variation to zoning that reduces OSA zoning	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Drangan	Variation that does not reduce the amount of land zoned as Residential			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the amount of land zoned as Residential	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Glengoole	Variation that does not reduce the amount of land zoned as Residential			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the amount of land zoned as Residential	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Kilcash	Variation that does not reduce the amount of land zoned as Residential			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land use zoning this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Providing for unnecessary zoning would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the amount of land zoned as Residential	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary zoning would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Grange (Clonmel)	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Ballinderry	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Ballingarry (node)	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Ballinree	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Kilcommon Upper	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Killusty	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Ballycahill	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Clonakenny	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Drom	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Drumbane	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Horse & Jockey	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

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Knock	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.
	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.
Loughmore	Variation that does not reduce the area encompassed by the settlement boundary			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**		**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			By including unnecessary land within the boundary this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement, this alternative would conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and decrease the likelihood of brownfield development. Including unnecessary land within the boundary would result in avoidable potential adverse environmental effects on these lands.

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	Variation that reduces the area encompassed by the settlement boundary	**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**			**B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1**				By reducing unnecessary land included within the settlement boundary this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By helping to avoid unnecessary sprawl of the settlement, this alternative would contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health) and increase brownfield development. Reducing unnecessary land included within the boundary would help to avoid potential adverse environmental effects that would otherwise occur as a result of development on lands outside of the settlement - this would benefit the protection of multiple environmental components.

Section 8 Overall Evaluation of Variations

8.1 Introduction

This section provides an overall evaluation of environmental effects for the Variations and is supported by **Appendix II *More Detail on Assessment of Individual Settlement Plans***. Appendix II provides an extended consideration of individual settlement plans including detailed information on the environmental baseline and an evaluation against SEOs.

8.2 Overall Evaluation

Tipperary County Council have integrated all recommendations arising from the SEA and AA processes into the Variations (see Section 9).

By providing for development within existing development boundaries and facilitating the use of existing utilities and brownfield sites, the County Development Plan as varied would be likely to contribute towards a reduced need to develop more sensitive, undeveloped areas elsewhere in the wider County that are further from established settlements and less well serviced. This would be likely to result in significant positive environmental effects on various environmental components as detailed on Table 8.1 overleaf.

Table 8.1 provides a detailed overall evaluation of the environmental effects arising from the Variations. The effects encompass all in-combination/cumulative effects arising from implementation of the Variations. The potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Variations are detailed as are residual effects, taking into account mitigation through both provisions integrated into the Variations and existing provisions already in force through the County Development Plans – see Section 9.

Environmental impacts which occur will be determined by the nature and extent of multiple or individual projects and site specific environmental factors. Strategic Environmental Objective (SEO) codes taken from Table 7.1.

Table 8.1 Overall Evaluation – Effects arising from the Variations

Environmental Component	Significant Positive Effect, likely to occur	Potential Effect, if unmitigated	Residual Adverse Effects	Relevant SEO Codes
Biodiversity and Flora and Fauna	• Facilitates lower overall effects on ecology (including designated sites, ecological connectivity, habitats) – due to increased utilisation of lands within existing development boundaries and use of existing utilities and brownfield sites. • Facilitates protection of ecology with respect to the provision of water services. • Facilitates contribution towards the protection of ecology as a result of contributing towards the protection of environmental vectors, including air and water.	• Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna • Habitat loss, fragmentation and deterioration, including patch size and edge effects. • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.	• Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces. • Losses or damage to ecology (these would be in compliance with relevant legislation).	**B1 B2 B3**
Population and Human Health	• Facilitates protection of human health with respect to the provision of water services and the provision of transport infrastructure integrated with land use planning – and associated interactions with sustainable mobility, emissions and energy usage. • Facilitates contribution towards the protection of human health as a result of contributing towards the protection of environmental vectors, including air and water.	• Potential interactions if effects upon environmental vectors such as water and air are not mitigated	• Potential interactions with residual effects on environmental vectors. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility and infrastructural provision.	**PHH1**
Soil	• Facilitates lower overall effects on soil – due to increased utilisation of lands within existing development boundaries and use of existing utilities and brownfield sites. • Facilitates protection of soil with respect to the provision of water services.	• Damage to the hydrogeological and ecological function of the soil resource.	• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.	**S1**
Water	• Facilitates lower effects on ground and surface waters due to higher levels of development within established and serviced settlement centres that have installed/upgraded water services capable of delivering Water Framework Directive targets.	• Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. • Increase in the risk of flooding.	• Increased loadings as a result of development to be in compliance with River Basin Management Plans. • Flood related risks remain due to uncertainty with regard to extreme weather events.	**W1 W2 W3**
Material Assets	• Provides for planned infrastructure including water services infrastructure and transport infrastructure. • Make most use of existing water services and drainage infrastructure.	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts) • Increases in waste levels.	• Residual wastes to be disposed of in line with higher level waste management policies.	**M1 M2**

Environmental Component	Significant Positive Effect, likely to occur	Potential Effect, if unmitigated	Residual Adverse Effects	Relevant SEO Codes
Air and Climatic Factors	• Facilitates contribution towards a shift from car to more sustainable and non-motorised transport modes. • Facilitates contribution towards reducing congestion and associated adverse effects on air quality. • Facilitates contribution towards reductions in travel related greenhouse gas and other emissions to air.	• Emissions to air including greenhouse gas emissions and other emissions.	• An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility.	**C1**
Cultural Heritage	• Contribution towards the protection of cultural heritage by facilitating compliance with protection legislation.	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	• Potential alteration to the context and setting of architectural heritage however these will occur in compliance with legislation. • Potential alteration to the context and setting of archaeological heritage however this will occur in compliance with legislation. • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Variations.	**CH1 CH2**
Landscape	• Contribution towards the protection of cultural heritage by facilitating compliance with objectives relating to landscape management and protection.	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape.	• None. The Variations contribute towards the protection of landscape designations. The County's landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments.	**L1**

8.3 Appropriate Assessment

Stage 2 Appropriate Assessment (AA) has been undertaken alongside the preparation of the Variations. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The AA concluded that the Variations will not affect the integrity of the Natura 2000 network[30].

The preparation of the Variations, SEA and AA has taken place concurrently and the findings of the AA have informed both the Variations and the SEA. All recommendations made by the AA were integrated into the Variations.

8.4 Interrelationship between Environmental Components

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Likely significant effects on environmental components which are identified include those which are interrelated; implementation of the Variations will not affect the interrelationships between these components. The presence of significant interrelationships between environmental components is identified on Table 8.2.

[30] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) No alternative solution available;
(b) Imperative reasons of overriding public interest for the plan/programme etc. to proceed; and
(c) Adequate compensatory measures in place.

Table 8.2 Presence of Interrelationships between Environmental Components

Component	Biodiversity, flora and fauna	Population and human health	Soil	Water	Air and Climatic factors	Material assets	Cultural heritage	Landscape
Biodiversity, flora and fauna		No	Yes	Yes	Yes	Yes	No	Yes
Population and human health			Yes	Yes	Yes	Yes	No	No
Soil				Yes	No	Yes	No	No
Water					No	Yes	No	No
Air and Climatic factors						Yes	No	No
Material assets							Yes	Yes
Cultural heritage								Yes
Landscape								

Section 9 Mitigation Measures

9.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Variations. Various environmental sensitivities and issues have been communicated to the Council through the SEA and the Appropriate Assessment (AA). By integrating all related recommendations into the Variations, the Council have ensured that both the beneficial environmental effects of implementing the Plan as varied have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation is achieved through the:

- Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development;
- Integration of individual SEA and AA provisions into the text of the Variations; and
- Integration of environmental considerations into zoning provisions of the Plan.

9.2 Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Proposed Variations (and associated SEA, AA and SFRA documents) on public display, Tipperary County Council undertook various works in order to inform the preparation of the Variations.

The findings of this strategic work have been integrated into the Variations and will contribute towards both environmental protection and management and sustainable development within the County.

Strategic work undertaken by the Council includes the collection of information on local services, the consideration of water services capacity information and the consideration of environmental sensitivities including as part of the SEA and AA processes.

9.3 Integration of provision requiring compliance with individual SEA and AA provisions into Settlement Plan Guide

Provision has been integrated into the Settlement Plan Guide requiring compliance with individual SEA and AA mitigating measures. Both the Planning and the SEA/AA teams contributed towards the mitigation which was developed over multiple iterations and was informed by, inter alia, various communications through the SEA and AA processes.

Table 9.1 links key mitigation measure(s) to the Variations to the likely significant effects of implementing the Variations, if unmitigated. The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

Existing provisions already in force through the County Development Plans are also detailed on Table 9.1 and these too provide additional mitigation.

9.4 Integration of environmental considerations into Zoning of Settlement Plans

Environmental considerations were integrated into the zoning of the Variations through an interdisciplinary approach.

The detailed Variations preparation process undertaken by the Planning Department combined with specialist input from the AA process facilitated zoning that avoids impacts upon sensitive ecology and European Sites.

The detailed Variations preparation process undertaken by the Planning Department combined with input with respect to available information on flood risk facilitated zoning that avoids inappropriate development being permitted in areas of high flood risk. Various provisions have been inserted into the Variations which provide for flood risk management at project level.

Also taken into account were other environmental considerations including sustainable mobility and sensitivities relating to cultural heritage, landscape and water, as well as the overlay mapping of environmental sensitivities.

Table 9.1 Individual SEA and AA provisions required to be complied with by Variations Settlement Plan Guide

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
All	• See those listed below	**Construction and Environmental Management Plans** Construction Environment Management Plans (CEMPs) shall be prepared in advance of the construction of larger projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Plan and any lower tier Environmental Impact Statement or Appropriate Assessment. CEMPs typically provide details of intended construction practice for the proposed development, including: a. location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse, b. location of areas for construction site offices and staff facilities, c. details of site security fencing and hoardings, d. details of on-site car parking facilities for site workers during the course of construction, e. details of the timing and routing of construction traffic to and from the construction site and associated directional signage, f. measures to obviate queuing of construction traffic on the adjoining road network, g. measures to prevent the spillage or deposit of clay, rubble or other debris, h. alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works, i. details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels, j. containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater, k. disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, l. a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains, m. details of a water quality monitoring and sampling plan. n. if peat is encountered - a peat storage, handling and reinstatement management plan. o. measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed). p. appointment of an ecological clerk of works at site investigation, preparation and construction phases.	-	• See those listed below

[31] The SEA Directive identifies a number of environmental topics which must be considered in the assessments being undertaken for plans and programmes. These topics are listed in this column and comprise biodiversity and flora and fauna, population and human health, soil, water, air and climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
Biodiversity and flora and fauna	• Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna • Habitat loss, fragmentation and deterioration, including patch size and edge effects. • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.	**Protection of Biodiversity including the Network of European Sites** Proposed developments shall contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including Natural Heritage Areas, proposed Natural Heritage Areas and Nature Reserves); Salmonid Waters; Flora Protection Order sites; Wildfowl Sanctuaries (see S.I. 192 of 1979); Freshwater Pearl Mussel catchments; and Tree Preservation Orders (TPOs). Proposed developments shall contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents: • EU Directives, including the Habitats Directive (92/43/EEC, as amended)[32], the Birds Directive (2009/147/EC)[33], the Environmental Liability Directive (2004/35/EC)[34], the Environmental Impact Assessment Directive (2011/92/EU as amended by 2014/52/EU), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). • National legislation, including the Wildlife Acts-2010[35], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008[36]. • National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. • Catchment and water resource management Plans, including the relevant River Basin Management Plan(s). • Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same). • Ireland's Environment 2016 (EPA, 2016, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges. **Appropriate Assessment** All projects and plans arising from the Plan (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that: • The project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European Site (either individually or in combination with other plans or projects); or • The project will have significant adverse effects on the integrity of any European Site (that does	**POLICY LH5** **POLICY LH6** **POLICY LH7** **POLICY LH9** **POLICY LH11** **OBJECTIVE SO7-2**	• Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces. • Losses or damage to ecology (these would be in compliance with relevant legislation).

[32] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).
[33] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).
[34] Including protected species and natural habitats.
[35] Including species of flora and fauna and their key habitats.
[36] Including protected species and natural habitats.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
		not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of the network of European Sites; or • The project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of the network of European Sites. **Annex I Species** The developer should liaise with the National Parks and Wildlife Services if Annex I species are present at or in the vicinity of the site. **European Sites** No projects giving rise to significant cumulative, direct, indirect or secondary impacts on 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 shall be permitted on the basis of the Plan (either individually or in combination with other plans or projects[37]). **Freshwater Pearl Mussel** Applications for development shall be accompanied by an assessment of potential impacts, mitigation and residual impacts upon the freshwater pearl mussel. Cumulative impacts should be considered in this assessment. **Biodiversity and Ecological Networks** • Proposed developments shall contribute towards the protection and enhancement of biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, wetlands, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive. • Where trees or hedgerows have to be removed there should be suitable planting of native species in mitigation. Where possible hedgerows and trees should not be removed during the nesting season (i.e. March 1st to August 31st). • Birds nests can only be intentionally destroyed under licence issued under the Wildlife Acts 1976-2000. • Bat roosts may be present in trees, buildings and bridges. Bat roosts can only be destroyed under licence under the Wildlife Acts and a derogation under the Habitats Regulations and such a licence would only be given if suitable mitigation measures were implemented.		

[37] Except as provided for in Section 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.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
		• Applications for development shall be accompanied by an assessment of potential impacts, mitigation and residual impacts upon the otters (including potential interactions with food sources and aquatic and terrestrial habitats), bats (including potential interactions with roosts, foraging sites and lighting) and birds (including flight paths) **Non-Designated Sites** Proposed developments shall contribute towards the protection of non-designated habitats and species, as appropriate. **Riparian Zone and Waterbodies and Watercourses** Proposed developments shall contribute towards the protection of waterbodies and watercourses, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains, from inappropriate development. **Alien invasive species** Cooperate as relevant with the National Parks and Wildlife Service in protecting against the accidental introduction of such species during development. **Fisheries** Where potential impacts on fishery components (such as water quality, surface water hydrology, aquatic habitats including spawning and nursery grounds and the riparian zone) are identified, Inland Fisheries Ireland shall be consulted in order to ensure that impacts are mitigated in compliance with relevant legislation. **Roads** Where roads are being improved and upgraded the opportunity will be taken where possible to address inadequate existing mitigation measures or impeded passage, for example the inclusion of mammal underpasses or dry ledges where there is poor culvert design). **Amenity/Tourism/Recreation Development** It is normal practice in the Council to ensure that: • Any increase in visitor numbers are managed to avoid significant negative effects including loss of habitat and disturbance; and • Any projects are a suitable distance from the edge of sensitive habitats such as rivers and streams38. **Drainage or Reclamation of Wetlands** The Council will implement the relevant parts of the Planning and Development (Amendment) (No. 2) Regulations 2011 and the European Communities (Amendment to Planning and Development) Regulations 2011 which require planning permission to be applied for where the area impacted by works relating to the drainage or reclamation of a wetland exceeds 0.1 hectares or where such works may have a significant effect on the environment. Such planning applications would need to be supported by an Appropriate Assessment where necessary. **Light Pollution** To ensure that external lighting and lighting schemes are designed so that light spillage is minimised, thereby protecting the amenities of nearby properties and wildlife, including protected species.		

[38] In general, pedestrian and cycle routes need ecological assessment in their planning and design and should not target sensitive ecological sites or parts of sites, as such routes have potential for disturbance to habitats and species, including as a result of noise, lighting, etc. Otherwise their development may not be consistent with nature conservation objectives and legal compliance requirements.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
Population and human health	• Potential interactions if effects upon environmental vectors such as water and air are not mitigated	**Human Health** Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level. **Radon** Ensure the implementation of the specific guidance on radon prevention measures for new homes as contained within the existing Building Regulations (including any updated/superseding regulations that may be published within the lifetime of this Plan).	**POLICY TI12** **POLICY TI13** **POLICY ED13**	• Potential interactions with residual effects on environmental vectors. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility and infrastructural provision.
Soil	• Damage to the hydrogeological and ecological function of the soil resource.	**Geological Sites** Proposed developments shall contribute shall contribute towards the protection and maintenance of the character, integrity and conservation value of features or areas of geological interest. **Soil** Proposed developments shall contribute Ensure that adequate soil pollution prevention measures are undertaken where appropriate. **Soil and Contamination** Ensure that adequate soil pollution prevention measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.	**POLICY LH10** **OBJECTIVE SO7-5**	• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.
Water	• Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. • Increase in the risk of flooding.	Also see measures under soil above and material assets below. **Water Framework Directive and associated legislation** Proposed developments shall contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, wetlands, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). **River Basin Management Plan(s)** Proposed developments shall support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan(s) (including the upcoming national River Basin Management Plan), and associated Programmes of Measures, as well as relevant recommendations contained in the Water Quality in Ireland 2010-2012 (EPA, 2015, and any updated/superseding document). These recommendations include the need for a catchment management approach to protecting and managing waters to maintain and improve water quality status. Proposals for development shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. **Constrained Land Use Strategy – Flooding** This Constrained Land Use Strategy that will contribute towards flood risk management at various locations, has been integrated into Section 5 of the Settlement Plan Guide.	**POLICY LH8** **POLICY LH12** **POLICY ED6** **POLICY TI11** **POLICY CEF8** **POLICY TI9**	• Increased loadings as a result of development to be in compliance with River Basin Management Plans. • Flood related risks remain due to uncertainty with regard to extreme weather events.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
Air and climatic factors	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts) • Increases in waste levels.	**CAFÉ Directive** Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents). **National Climate Change Adaptation Framework and Mitigation Plan** To implement relevant provisions contained in the 'National Climate Change Adaptation Framework - Building Resilience to Climate Change' (DECLG, 2012) and support the recommendations of the National Mitigation Plan (in particular aspects relating to land use, transport and energy efficiency). **Green Infrastructure** Encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following: • Provision of open space amenities • Sustainable management of water • Protection and management of biodiversity • Protection of cultural heritage • Protection of protected landscape designations.	**POLICY CEF1**	• Residual wastes to be disposed of in line with higher level waste management policies.
Material Assets	• Emissions to air including greenhouse gas emissions and other emissions.	**Irish Water** Collaborate with and support, as relevant and appropriate, Irish Water in its new role as the lead authority for water services. **Sufficient Capacity** Development will only be permitted in instances where there is sufficient capacity in the public water and waste water infrastructure. **Waste Water Treatment or Network Issues** Tipperary County Council will seek to collaborate with Irish Water to resolve any waste water treatment or network issues. These issues will include those relating to the following: • Waste water treatment plant capacity; • Waste water treatment plant operating issues; and • Waste water collection network issues including infiltration. **Focus on Urban Waste Water Discharges in Ireland** In conjunction with Irish Water, implement relevant recommendations set out in the EPA (2016) publication Urban Waste Water Treatment in 2015 (and any subsequent update). **Urban Waste Water Treatment Regulations** Collaborate with Irish Water in contributing towards compliance with the relevant provisions of the Urban Waste Water Treatment Regulations 2001 and 2004 and the Waste Water Discharge (Authorisation) Regulations 2007. **Drinking Water Regulations** Collaborate with Irish Water in contributing towards compliance with the European Communities (Drinking Water) Regulations (No. 2) 2007 and compliance of water supplies comply with the 48 parameters identified in these Regulations. **The Provision and Quality of Drinking Water in Ireland** The Council, in conjunction with Irish Water, shall have regard to the EPA (2016) publication Drinking Water Report for Public Water Supplies 2015 (and any subsequent update) in the establishment and	**POLICY TI8** **POLICY TI6** **POLICY TI7** **POLICY TI10**	• An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
		maintenance of water sources in the County. **EPA's Remedial Action List** The Council, in conjunction with Irish Water, shall undertake recommendations made by the EPA arising from any failure to meet drinking water standards and any enlistment on the EPA's Remedial Action List. **Construction Waste** Construction wastes arising will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and new Southern Waste Management Plan. Construction Waste Management Plans will be implemented where relevant to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006. **Waste Creation** Proposed developments shall support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible. **Waste Disposal** Proposed developments shall safeguard the environment by seeking to ensure that residual waste is disposed of appropriately. **Construction and Environmental Management Plans** see top of this table		
Cultural Heritage	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	**Protection of Archaeological and Architectural Heritage** Proposed developments shall contribute towards: • The protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended). • The protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places. • The protection of architectural heritage by complying, as appropriate, with the legislative provisions of the Planning and Development Act 2000 (as amended) in relation to architectural heritage and the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document). • The protection and preservation of underwater archaeological sites. **Archaeological and Architectural Heritage Surveys and Assessments** Any surveys and assessments required shall take into account cumulative effects and consider cross-County border impacts such as those which might occur along the County Tipperary and County Kilkenny borders - with particular reference to those areas around Slievenamon and the Lingaun River Valley – including Rathclarish, Ahenny, Kilcash (in County Tipperary) and Kilkieran, Knockroe and Killamery (in County Kilkenny).	**POLICY LH13** **POLICY LH14** **POLICY LH15** **OBJECTIVE SO7-3** **OBJECTIVE SO7-4** **POLICY LH16** **OBJECTIVE SO7-6**	• Potential alteration to the context and setting of architectural heritage however these will occur in compliance with legislation. • Potential alteration to the context and setting of archaeological heritage however this will occur in compliance with legislation. • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Variations.

Environmental Component[31]	Potential Effect, if unmitigated	Individual SEA and AA provisions *The Variations requires that developments shall demonstrate compliance with the provisions laid out below as relevant and appropriate.*	Mitigating provisions already included within the existing Plan	Residual Adverse Effects
Landscape	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape.	**Landscape Designations** Contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape and visual impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.	**POLICY LH1** **POLICY LH2** **POLICY LH3** **POLICY LH4** **OBJECTIVE SO7-1** **POLICY TI14** **POLICY SS3 (iii)** **POLICY ED3**	• None. The Variations contributes towards the protection of landscape designations. The County's landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments.

Section 10 Monitoring Measures

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures which will be used in order to monitor the likely significant effects of implementing the Plan as varied.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

10.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 5 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions.

Table 10.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects, if unmitigated, of implementing the Plan as varied.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a *grant of permission* basis. The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination - e.g. whether a proposed development will impact upon a Protected Structure, for example - while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan as varied can be achieved.

Where significant effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

10.4 Reporting

Article 10 of the SEA Directive requires Member States to monitor the significant environmental effects of the implementation of plans "*in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action*." Existing monitoring arrangements may be used if appropriate, to avoid duplication of monitoring [Source: Chapter 7 Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment Guidelines for Regional Authorities and Planning Authorities. DoEHLG 2004].

A stand-alone Monitoring Report on the significant environmental effects of implementing the County Development Plan (including the Variations) will be prepared in advance of the review of the County Development Plan.

10.5 Thresholds and Corrective Action

Thresholds at which corrective action will be considered include:

- Court cases taken by the Department of Arts, Heritage and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the Plan as varied; and
- Fish kills.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source and Frequency of Monitoring
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Plan as varied[39]	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). • Department of Arts, Heritage and the Gaeltacht's National Monitoring Report for the Birds Directive under Article 12 (every 3 years). • Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan as varied	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • CORINE mapping resurvey (every c. 5 years)
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan as varied B3ii: Number of significant impacts on the protection of listed species	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan as varied B3ii: No significant impacts on the protection of listed species	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan as varied, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 10.4).
Soil	S1i: Soil extent and hydraulic connectivity	S1i: To minimise reductions in soil extent and hydraulic connectivity	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
Water	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve *good status*[40]	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).

[39] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) no alternative solution available;
(b) imperative reasons of overriding public interest for the plan to proceed; and
(c) adequate compensatory measures in place.

[40] Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA:
- *Q4* in the biological classification of *rivers*; and
- Mesotrophic in the classification of lakes.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source and Frequency of Monitoring
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with *The Planning System and Flood Risk Management Guidelines for Planning Authorities*	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan as varied	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan as varied	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan as varied	• EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). • EPA Remedial Action List (every quarter).
	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	• EPA National Waste Reports • EPA Ireland's Environment Reports
Air and Climatic Factors	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	• Consultations with the Sustainable Energy Authority of Ireland
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) - protected from significant adverse effects arising from new development granted permission under the Plan as varied	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from significant adverse effects arising from new development granted permission under the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source and Frequency of Monitoring
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan as varied	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable adverse visual impacts on the landscape resulting from development which is granted permission under the Plan as varied	L1: No developments permitted which result in avoidable adverse visual impacts on the landscape resulting from development which is granted permission under the Plan as varied	• Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).

Appendix I Relationship with Legislation and Other Plans and Programmes

This appendix is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each.

European				
Directive/ Plan/ Programme	**Highest Level Aim/ Purpose/ Objective**	**Lower level objectives, actions etc.**	**Relevant legislation etc. in Ireland**	**Relevance to the Strategy**
EU Green Infrastructure Strategy	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects	• Promoting GI in the main EU policy areas; • Supporting EU-level GI projects; • Improving access to finance for GI projects, and • Improving information and promoting innovation	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
UN Kyoto Protocol (2ND Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015	The UN Kyoto Protocol set of policy measures to reduce greenhouse gas emissions The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.	• The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II) • EU member states implement measures to improve on or compliment the specified measures and policies arising from the ECCP • Under COP21, governments agreed to come together every 5 years to set more ambitious targets as required by science; report to each other and the public on how well they are doing to implement their targets; track progress towards the long-term goal through a robust transparency and accountability system	National Policy Position and final Heads of the Climate Action and Low-Carbon Development Bill	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
EU 2020 climate and energy package	• Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020 • Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels • Aims to raise the share of EU energy consumption produced from renewable resources to 20% • Achieve a 20% improvement in the EU's energy efficiency	Four pieces of complimentary legislation: • Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps • Member States have agreed national targets for non-EU ETS emissions from countries outside the EU • Meet the national renewable energy targets of 16% for Ireland by 2020 • Preparing a legal framework for technologies in carbon capture and storage	The Framework for Climate Change Bill European Communities (Renewable Energy) Regulations 2011 (S.I. No. 147/2011)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Habitats Directive (92/43/EEC)	• Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora • Contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora • Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of Community interest • Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements.	• Propose and protect sites of importance to habitats, plant and animal species • Establish a network of European sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range • Carry out comprehensive assessment of habitat types and species present • Establish a system of strict protection for the animal species and plant species listed in Annex IV	European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Birds Directive (2009/147/EC)	• Conserve all species of naturally occurring birds in the wild state including their eggs, nests and habitats • Protect, manage and control these species and comply with regulations relating to their exploitation • The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution	• Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1. • Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas); ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes • Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance.	European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
European Union Biodiversity Strategy to 2020	• Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy • Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible	• Outlines six targets and twenty actions to aid European in halting the loss to biodiversity and eco-system services • The six targets cover: o Full implementation of EU nature legislation to protect biodiversity o Maintaining, enhancing and protecting for ecosystems, and green infrastructure o Ensuring sustainable agriculture, and forestry o Sustainable management of fish stocks o Reducing invasive alien species o Addressing the global need to contribute towards averting global biodiversity loss	Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

The Clean Air for Europe Directive (2008/50/EC) Fourth Daughter Directive (2004/107/EC)	• The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive) • Sets new air quality objectives for PM2.5 (fine particles) including the limit value and exposure related objectives • Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values • Allows the possibility for time extensions of three years (PM10) or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. • The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air	• Sets objectives for ambient air quality • designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole • Aims to assess the ambient air quality in Member States on the basis of common methods and criteria; • Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term • trends and improvements resulting from national and Community • measures; • Ensures that such information on ambient air quality is made available to the public; • Aims to maintain air quality where it is good and improving it in other cases; • Aims to promote increased cooperation between the Member States in reducing air pollution.	Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Noise Directive 2002/49/EC	The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.	The Directive requires competent authorities in Member States to: • Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels; • Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and • Inform and consult the public about noise exposure, its effects, and the measures considered to address noise. The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.	Environmental Noise Regulations 2006 (S.I. No. 140 of 2006)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Floods Directive (2007/60/EC)	• Establishes a framework for the assessment and management of flood risks • Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community	• Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment • Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3 • Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above • Inform the public and allow the public to participate in planning process	European Communities (Assessment and Management of Flood Risks) Regulations (S.I. 122/2010) European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Water Framework Directive (2000/60/EC)	• Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats • Preserve and prevent the deterioration of water status and where necessary improve and maintain “good status” of water bodies • Promote sustainable water usage • The Water Framework Directive repealed the following Directives: o The Drinking Water Abstraction Directive o Sampling Drinking Water Directive o Exchange of Information on Quality of Surface Freshwater Directive o Shellfish Directive o Freshwater Fish Directive o Groundwater (Dangerous Substances) Directive o Dangerous Substances Directive	• Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive • Achieve "good status" for all waters • Manage water bodies based on identifying and establishing river basins districts • Involve the public and streamline legislation • Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas • Establish a programme of monitoring for surface water status, groundwater status and protected areas • Recover costs for water services	European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Groundwater Directive (2006/118/EC)	• Protect, control and conserve groundwater • Prevent the deterioration of the status of all bodies of groundwater • Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals.	• Meet minimum groundwater standards listed in Annex 1 of Directive • Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II	European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Drinking Water Directive (98/83/EC)	• Improve and maintain the quality of water intended for human consumption • Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean	• Set values applicable to water intended for human consumption for the parameters set out in Annex I • Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a) • Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5 • Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause • Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action • Undertake remedial action to restore the quality of the water where necessary to protect human health • Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial	European Union (Drinking Water) Regulations 2014 (S.I. No. 106 of 2007) (as amended) European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Urban Waste Water Treatment Directive (91/271/EEC)	• This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors • The objective of the Directive is to protect the environment from the adverse effects of waste water discharges	• Urban waste water entering collecting systems shall before discharge, be subject to secondary treatment • Annex II requires the designation of areas sensitive to eutrophication which receive water discharges • Establishes minimum requirements for urban waste water collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors	European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Environmental Liability Directive (2004/35/EC)	• Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage	• Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent • Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures • Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7. • The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive • The competent authority shall be entitled to initiate cost recovery proceedings against the operator • The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met	European Communities (Environmental Liability) Regulations, 2008	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

SEA Directive (2001/42/EC)	• Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development • Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment	• Carry out and environmental assessment for plans or programmes referred to in Articles 2 to 4 of the Directive • Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme • Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission • Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects • Inform relevant authorities and stakeholders on the decision to implement the plan or programme • Issue a statement to include requirements detailed in Article 9 of the Directive • Monitor and mitigate significant environmental effects identified by the assessment	European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435/ 2004) (as amended) Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436/2004) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

EIA Directive (2011/92/EU as amended by 2014/52/EU)	• Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment • Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4	• All projects listed in Annex I are considered as having significant effects on the environment and require an EIA • For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III. • The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor • Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made • The information to be provided by the developer in accordance with paragraph 1 shall include at least: o a description of the project comprising information on the site, design and size of the project; o a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; o the data required to identify and assess the main effects which the project is likely to have on the environment; o an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects; o a non-technical summary of the information referred to each of the above.	European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349/1989) (as amended) European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

National / Regional				
Plan / Programme	**Highest Level Aim / Purpose / Objective**	**Lower level relevant objectives , actions etc.**	**Relevant legislation**	**Relevance to the Strategy**
Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework	• Reviews infrastructure and capital spending over a medium timeframe to ensure investment is made in the best areas • Identifies gaps in existing infrastructure that require addressing to aid economic recovery, social cohesion and environmental sustainability	The approach identifies four main components of the investment strategy as follows: • Economic infrastructure – encompassing transport networks, energy provision and telecommunications capacity • Investment in the productive sector and human capital – such as direct supports for enterprise development; science, technology and innovation advancement; supports for tourism, agriculture, fisheries and forestry; and capital investment in education infrastructure • Environmental infrastructure – including our waste and water systems and investment for environmental sustainability • Critical social investment – such as the health service and social housing programmes	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Smarter Travel – A Sustainable Transport Future – A New Transport Policy For Ireland 2009-2020 (2009)	• Outlines a policy for how a sustainable travel and transport system can be achieved • Sets out five key goals: o To reduce overall travel demand. o To maximise the efficiency of the transport network. o To reduce reliance on fossil fuels. o To reduce transport emissions. o To improve accessibility to transport.	• Others lower level aims include: o reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment o ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking o improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies o strengthening institutional arrangements to deliver the targets	not applicable	In combination with this Policy the CDP will contribute towards smarter travel and associated positive environmental effects.
Ireland's First National Cycle Policy Framework (2009)	• Outlines objectives and actions aimed at developing a strong cycle network in Ireland • Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed	• Sets a target where 10% of all journeys will be made by bike by 2020 • Proposes the planning, infrastructure, communication, education and stakeholder participations measures required to implement the initiative	not applicable	In combination with this Framework the CDP will contribute towards smarter travel and associated positive environmental effects
Scoping Study for a National Cycle Network (NCN)	• Investigated the feasibility of developing a National Cycle Network for recreational routes in rural areas, urban areas and connecting larger urban areas • The scoping study and subsequent workshops resulted in a recommended National Cycle Network	not applicable	not applicable	In combination with this Study the CDP will contribute towards smarter travel and associated positive environmental effects.

Strategic Framework for Integrated Land use and Transport (SFILT) – Department of Transport, Tourism and Sport	• Presents the findings and conclusions of a steering group which was convened and tasked with overseeing the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions.	Key features of the framework policy include the following: • Focus on economic growth • Principles to frame future investment	not applicable	In combination with this Study the CDP will contribute towards smarter travel and associated positive environmental effects.
National Climate Change Strategy 2007 – 2012 (2007)	• Outlines measures to be undertaken to meet the commitments under the Kyoto Protocol • Identifies specific measures to meet the commitment up to 2012 and further measures to meet the 2020 target	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Climate Action and Low Carbon Development Act 2015	Ireland's national policy in response to climate change is determined, in part, by legislation.	In particular, Ireland's first-ever dedicated climate change law, the Climate Action and Low Carbon Development Act 2015 , provides for the making of: • five-yearly National Mitigation Plans to specify the policy measures to reduce greenhouse gas emissions • a National Adaptation Framework to specify the national strategy for the application of adaptation measures in different sectors and by local authorities to reduce the vulnerability of the State to the negative effects of climate change. The Act also establishes the Climate Change Advisory Council to advise ministers and the government on climate change matters.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)	• White paper setting out a framework for delivering a sustainable energy future in Ireland • Outlines strategic Goals for: o Security of Supply o Sustainability of Energy o Competitiveness of Energy Supply	The underpinning Strategic Goals are: • Ensuring that electricity supply consistently meets demand • Ensuring the physical security and reliability of gas supplies to Ireland • Enhancing the diversity of fuels used for power generation • Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks • Creating a stable attractive environment for hydrocarbon exploration and production • Being prepared for energy supply disruptions	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Climate Change Adaptation Framework (DECLG, 2012)	• The National Climate Change Adaptation Framework provides a strategic policy focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change.	Actions include those relating to: • Research and Knowledge Base • Governance • Local Plans • Stakeholder Consultation	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

National Renewable Energy Action Plan	• A strategic approach for Ireland including measures to meet European targets for 2020 including Ireland's 16% target of gross final consumption to come from renewables by 2020	not applicable	Renewable Energy Directive 2009/28/EC	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Energy Efficiency Action Plan for Ireland 2007-2020 (2007)	• This is the second National Energy Efficiency Action Plan for Ireland	The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Sustainable Development – A Strategy for Ireland (1997)	• Provides an analysis and a strategic framework for sustainable development in Ireland • Identifies the approaches required to support sustainable development	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Wildlife Act of 1976 Wildlife (Amendment) Act, 2000	• The act provides protection and conservation of wild flora and fauna	• Provides protection for certain species, their habitats and important ecosystems • Give statutory protection to NHAs • Enhances wildlife species and their habitats • Includes more species for protection	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	• Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally	• To mainstream biodiversity in the decision making process across all sectors • To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity • To increase awareness and appreciation of biodiversity and ecosystems services • To conserve and restore biodiversity and ecosystem services in the wider countryside • To conserve and restore biodiversity and ecosystem services in the marine environment • To expand and improve on the management of protected areas and legally protected species • To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	• Sets out comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process • Ensures flood risk is a key consideration • in preparing development plans and local area plans and in the assessment • of planning applications • Implementation of the Guidelines is through actions at national, regional, local authority and site-specific levels	• Avoid inappropriate development in areas at risk of flooding • Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off • Ensure effective management of residual risks for development permitted in floodplains • Avoid unnecessary restriction of national, regional or local economic and social growth • Improve the understanding of flood risk among relevant stakeholders • Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.	Planning and Development Act 2000 (as amended) S.I. No. 122/2010 EC (Assessment and Management of Flood Risks) Regulations 2010 S.I. No. 470/2012 European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012.	The Council is obliged to comply with, as relevant and appropriate, the requirements of these Guidelines
European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003) European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)	• Transposes the Water Framework Directive into legislation • Outlines the general duty of public authorities in relation to water • Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions	• Implements River basin districts and characterisation of RBDs and River Basin Management Plans • Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs • Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies • Allows the competent authority to recover the cost of damage/destruction of status of water body • Outlines environmental objectives and programme of measures and environmental quality standards for priority substances • Outlines criteria for assessment of groundwater	Water Framework Directive 2000/60/EC	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)	• Transposes the requirements of the Water Framework Directive into Irish Legislation • The Surface Waters Regulations also give further effect to the WFD, establishing a framework for Community action in the field of water policy and Directive 2006/11/EC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.	These Regulations provide, inter alia, for: • The establishment of legally binding quality objectives for all surface waters and environmental quality standards for pollutants; • The examination and where appropriate, review of existing discharge authorisations by Public Authorities to ensure that the emission limits laid down in authorisations support compliance with the new water quality objectives/standards; • The classification of surface water bodies by the EPA for the purposes of the Water Framework Directive; • The establishment of inventories of priority substances by the EPA; and • The drawing up of pollution reduction plans by coordinating local authorities (in consultation with the EPA) to reduce pollution by priority substances and to cease and/or phase out discharges, emissions or losses of priority hazardous substances.	Water Framework Directive 2000/60/EC	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation

European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)	• Transposes the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation	• Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality • Sets groundwater quality standards • Outlines threshold values for the classification and protection of groundwater	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Water Pollution Acts 1977 to 1990	• The Water Pollution Acts allow Local Authorities the authority regulate and supervise actions relating to water in their division	The Water Pollution Acts enable local authorities to: • prosecute for water pollution offences; • attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters; • issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution; • issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices; • seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects; • prepare water quality management plans for any waters in or adjoining their functional areas	Water Services Act 2013	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	• Transposes the Urban Waste Water Treatment Directive into Irish Legislation • Aims to protect receiving waters from environmental damage arising from urban waste ater	• Sets out the legislative requirements for urban waste water collection and treatment systems • Provides for monitoring programmes of discharges • Specifies threshold values and minimum standards for water quality	Urban Waste Water Treatment Directive (91/271/EEC)	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation

Water Services Act 2007 Water Services (Amendment) Act 2012 Water Services Act 2013	• Provides the water services infrastructure • Outlines the responsibilities involved in delivering and managing water services • Identifies the authority in charge of provision of water and waste water supply • Irish Water was given the responsibility of the provision of water and waste water services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland	Key strategic objectives include: • Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector. • Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced. • Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards • Ensuring the provision of the remaining infrastructure needed to provide secondary waste water treatment, for compliance with the requirements of the EU Urban Waste Water Treatment Directive. • Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures. • Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems. • Ensuring a fair funding model to deliver water services. • Overseeing the establishment of an economic regulation function under the CER.	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	• This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.	Six strategic objectives as follows: • Meet Customer Expectations. • Ensure a Safe and Reliable Water Supply. • Provide Effective Management of Waste Water. • Protect and Enhance the Environment. • Support Social and Economic Growth. • Invest in Our Future.	The Water Services (No. 2) Act (2013)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Spatial Strategy 2002-2020 (2002) to be replaced by the upcoming National Planning Framework	• Planning framework for Ireland • Aims to achieve a better balance of social, economic and physical development across Ireland, supported by effective planning	• Proposes that areas of sufficient scale and critical mass will be built up through a network of gateways, hubs and key town	Local Government (Planning and Development) Act, 1963 (as amended) Requirement of the Planning and Development (Amendment) Act (2010)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Grid25 Implementation Programme	• Framework for the development of the electricity transmission grid in the short, medium and long terms, to support a long-term sustainable and reliable electricity supply	• Seeks to implement the provisions of the 2007 Government White Paper on Energy -"Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

National Landscape Strategy 2015	• Aims to implement the European Landscape Convention in Ireland by providing for specific measures to promote the protection, management and planning of the landscape.	The objectives of the National Landscape Strategy are to: • Recognise landscapes in law • Develop a National Landscape Character Assessment; • Develop Landscape Policies; • Increase Landscape Awareness; • Identity Education, Research and Training Needs; and • Strengthen Public Participation.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Rural Development Programme 2014-2020	• The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas	At a more detailed level, the programme also: • Supports structural change at farm level including training young farmers and encouraging early retirement, support for restructuring, development and innovation; • Aims to improve the environment, biodiversity and the amenity value of the countryside by support for land management through funds such as Natura 2000 payments etc.; and • Aims to improve quality of life in rural areas and encouraging diversification of economic activity through the implementation of local development strategies such as non-agricultural activities	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Forestry Programme 2014-2020	• Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020.	Measures include the following: • Afforestation and Creation of Woodland • NeighbourWood Scheme • Forest Roads • Reconstitution Scheme • Woodland Improvement Scheme • Native Woodland Conservation Scheme • Knowledge Transfer and Information Actions • Producer Groups • Innovative Forest Technology • Forest Genetic Reproductive Material • Forest Management Plans	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Peatlands Strategy (draft/in preparation)	• This Draft Strategy, prepared by the National Parks and Wildlife Service, will, when finalised, establish principles in relation to Irish peatlands in order to guide Government policy. The Draft Strategy aims to provide a framework for which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution.	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

National Biodiversity Action Plan	• This Action Plan sets out an integrated strategy for collective delivery of the potential benefits of bioenergy resources across the agriculture, enterprise, transport, environment and energy sectors.	Includes detailed actions for the electricity sector, transport fuel sector, heat sector, research and development sector.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme (draft/in preparation)	• The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland.	CFRAM Studies are being undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Maps have been published and Draft Flood Risk Management Plans are being consulted on.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Hazardous Waste Management Plan (EPA) 2014-2020	• Sets out the priorities to be pursued over the next number of years to continually improve the management of Ireland's hazardous waste.	The objectives of the revised Plan are: • To prevent and reduce the generation of hazardous waste by industry and society generally; • To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste; • To strive for increased self-sufficiency in the management of hazardous waste and • to minimise hazardous waste export; • To minimise the environmental, health, social and economic impacts of hazardous waste generation and management	Section 26 of the Waste Management Act 1996 as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Regional and Inter-County				
Plan/Programme	**Highest Level Aim/ Purpose/ Objective**	**Lower level relevant objectives , actions etc.**	**Relevant legislation in Ireland**	**Relevance to the Strategy**
River Basin Management Plans and associated Programmes of Measures	• Establish a framework for the protection of water bodies at River Basin District (RBD) level • Preserve, prevent the deterioration of water status and where necessary improve and maintain “good status” of water bodies in that RBD before 2015 • Promote sustainable water usage	• Aims to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive • Identifies and manages water bodies in the RBD • Establishes a programme of measures for monitoring and improving water quality in the RBD • Involves the public through consultations	Water Framework Directive (2000/60/EC) European Communities (Water Policy) Regulations, 2003 (SI No. 722) (as amended) Guidelines for the Establishment of River Basin District Advisory Councils (RBDAC)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Regional Planning Guidelines	• Provide a long-term strategic planning framework for the development of regions	• Aim to give regional effect to the National Spatial Strategy • Guide the Development Plans and lower tier plans of planning authorities	Requirement of the Planning and Sustainable Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Freshwater Pearl Mussel Sub-Basin Management Plans	• Identifies the current status of the species and the reason for loss or decline • Identifies measure required to improve or restore current status	• Identifies pressures on Freshwater Pearl Mussels for each of the designated populations in Ireland • Outlines restoration measures required to ensure favourable conservation status	Water Framework Directive (2000/60/EC) and Habitats Directive (92/43/EEC) European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Management Plans for European sites	Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for Special Area of Conservation involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans.	• Integrated Management Plans can be practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities.	Habitats Directive	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Outputs from the South Eastern and Shannon Catchment Flood Risk Assessment and Management Programme	The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland.	CFRAM Studies are being undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Maps have been published and Draft Flood Risk Management Plans are being consulted on.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Southern Regional Waste Management Plan 2015	The regional plan provides the framework for waste management for a period of six years and sets out a range of policies and actions in order to meet specified mandatory and performance targets. The strategic vision of the regional waste plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy.	Strategic objectives: • Policy & Legislation • Prevention • Resource Efficiency • Coordination • Infrastructure Planning • Enforcement & Regulations • Protection • Other Wastes	European Directive (2008/98/EC) on Waste (Waste Framework Directive); Council Decision (200/532/EC) establishing a list of wastes; and Regulation (1013/2006) on the shipments of waste	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
County and Local				
Plan/Programme	**Highest Level Aim/ Purpose/ Objective**	**Lower level relevant objectives , actions etc.**	**Relevant legislation in Ireland**	**Relevance to the Strategy**
County Development Plans (CDP): North Tipperary CDP (2010), as varied South Tipperary CDP (2009), as varied	• Outlines planning objectives for County/Town development over six year lifespan • Strategic framework for planning and sustainable development including those set out in National Spatial Strategy and Regional Planning Guidelines	• Identifies future infrastructure, development and zoning required • Protects and enhances amenities and environment • Guides planning authority in assessing proposals	Requirement of the Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Local Plans	• Statutory documents which provide detailed planning policies to ensure proper planning and sustainable development of area • Set out objectives for future planning and development	• Identifies issues of relevance to the area and outlines principles for future development of area • Is consistent with relevant County/Town Development Plans, National Spatial Strategy and Regional Planning Guidelines	Local Government (Planning and Development) Act, 1963 (as amended) Requirement of the Planning and Development (Amendment) Act (2010)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Groundwater Protection Scheme for County Tipperary (GSI): County Tipperary (South Riding) Groundwater Protection Scheme (2001) North County Tipperary Groundwater Protection Scheme (2002)	• Aims to preserve the quality of groundwater in Tipperary for drinking purposes and other beneficial uses, and for the benefit of present and future generations.	The objectives, which are interrelated, are as follows: • to assist the statutory authorities in meeting their responsibilities for the protection and conservation of groundwater resources; • to provide geological and hydrogeological information for the planning process, so that potentially polluting developments can be located and controlled in an environmentally acceptable way; • to integrate the factors associated with groundwater contamination risk, to focus attention on the higher risk areas and activities, and to provide a logical structure within which contamination control measures can be selected	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Local Economic and Community Plan for County Tipperary (2015)	Promotes a more integrated and targeted approach to addressing strategic issues (and consequently public spend) through the delivery of key services in a way that meets the needs of the community.	The key priorities identified in Phase 1 of this plan making process are based on an approach that: • supports the policy requirements of Government and its operational bodies • provides clarity as to what are the key issues from the citizens perspective ensures that, where available, evidence will be used to verify or challenge perspectives • prioritises key actions in order to ensure that the limited available resources will be appropriately targeted at those areas and issues which have the greatest need and/or where the greatest potential can be leveraged • concentrates on those actions where cooperation and collaboration among local agencies would deliver better services to the people of Tipperary	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Biodiversity Action Plans	• Aims to protect, conserve, enhance and restore biodiversity and ecosystem services across all spectrums	• Outlines the status of biodiversity and identifies species of importance • Outlines objectives and targets to be met to maintain and improve biodiversity • Aims increase awareness	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

County Heritage Plans for County Tipperary and adjacent counties	• Aims to highlight the importance of heritage at a strategic level	• Manage and promote heritage as well as increase awareness • Aim to conserve and protect heritage	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Local Catchment Flood Risk Management Plans	• Produced by Local Authorities • Outlines areas local flood risk • Sets out measures to manage and prevent flood risk at a local level	not applicable	Floods Directive 2007/60/EC Planning and Development Act 2000 (as amended) S.I. No. 122/2010 EC (Assessment and Management of Flood Risks) Regulations 2010 S.I. No. 470/2012 European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management