Appendix 19b
SEA Environmental Rerport

Waterford
City & County Council
Comhairle Cathrach
& Contae Phort Láirge

SEA ENVIRONMENTAL REPORT

FOR THE

WATERFORD CITY AND COUNTY DEVELOPMENT PLAN 2022-2028

for: **Waterford City and County Council**

City Hall

The Mall

Waterford City

by: **CAAS Ltd.**

1st Floor

24-26 Ormond Quay Upper

Dublin 7

JULY 2022

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List of Abbreviations

AA	Appropriate Assessment
ACA	Architectural Conservation Area
CAFE	Cleaner Air for Europe
CFRAM	Catchment Flood Risk Assessment and Management
CORINE	Co-ORdinated INformation on the Environment
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and Marine
DCCAE	Department of Communication, Climate Action and Environment
DCHG	Department of Culture, Heritage and the Gaeltacht
DECC	Department of Environment, Climate and Communications
DEHLG	Department of the Environment, Heritage and Local Government
DHLGH	Department of Housing, Local Government and Heritage
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EQS	Environmental Quality Standard
EU	European Union
FPO	Flora Protection Order
GSI	Geological Survey of Ireland
LTPs	Local Transport Plans
MASP	Metropolitan Area Strategic Plan
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NTA	National Transport Authority
OPW	Office of Public Works
pNHA	proposed Natural Heritage Area
PAS	Priority Action Substance
PLUTS	Planning and Land-use Transportation Study
POPs	Persistent Organic Pollutants
RAL	Remedial Action List
RBD	River Basin District
RMP	Record of Monuments and Places
RPA	Register of Protected Areas
RSES	Regional Spatial and Economic Strategy
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
THMs	Trihalomethanes
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organisation
WFD	Water Framework Directive
WRZ	Water Resource Zone
WMATS	Waterford Metropolitan Area Transport Strategy
WWTP	Wastewater Treatment Plant

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment (AA) 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, coming 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.

In the context of Article 6 of the Habitats Directive, mitigation measures are clearly distinguished from compensatory measures. Compensatory measures are intended to offset the negative effects of the plan or project so that the overall ecological coherence of the Natura 2000 Network is maintained.

Natural Heritage

The Heritage Act (1995) defines natural heritage as including flora, fauna, wildlife habitats, landscapes, seascapes, wrecks, geology, inland waterways, heritage gardens and parks.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 (as amended) and associated Regulations (as amended) to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

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 Department of Culture, Heritage 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 Plan and the alternatives were 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 Benefits

1.1 Introduction

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Waterford City and County Development Plan 2022-2028. It has been undertaken by CAAS Ltd. on behalf of Waterford City and County Council. The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan.

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 ensure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

The SEA is being undertaken in order to comply with European SEA Directive[1], which introduced the requirement that SEA be carried out on plans and programmes that are prepared for a number of sectors, including land use planning.

1.2 Implications for the Planning Authority

SEA identifies the likely significant environmental effects of implementing the Plan. The findings of the SEA are expressed in this Environmental Report, an earlier version of which accompanied the Draft Plan on public display and has been updated following consultation, and identifies how environmental considerations were integrated into the Plan and how alternatives for the Plan were considered.

The planning authority has taken into account the findings of this report and other related SEA output during the Plan preparation process.

Following adoption of the Plan, an SEA Statement is prepared that summarises, inter alia, how environmental considerations have been integrated into the Plan.

1.3 Why SEA? The Benefits

SEA is the planning authority's and the public's guide to what are generally the best areas for development in the City and County.

SEA enables the planning authority to direct development towards robust, well-serviced and connected areas in the City and County – thereby facilitating the general avoidance of incompatible areas in the most sensitive, least well-serviced and least well-connected areas.

SEA provides greater certainty to the public and to developers. Plans are more likely to be adopted without delays or challenges and planning applications are more likely to be granted permission. Environmental mitigation is more likely to cost less.

An overlay of environmental sensitivities in Waterford City and County are shown on Figure 1.1. Further detail on the weighting applied to different sensitivities is provided under Section 4.14.

The overlay mapping shows that environmental sensitivities are not evenly distributed throughout the City and County. Much of the City and County is identified as having low to moderate levels of sensitivity.

[1] 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, transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI No. 435 of 2004), as 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 (SEA) Regulations 2004 (SI No. 436 of 2004), as amended by the Planning and Development (SEA) (Amendment) Regulations 2011 (SI No. 201 of 2011).

The most sensitive areas include:

- Upland and foothill areas of the County, including the Comeragh Mountains, on account of European Site ecological designations, archaeological heritage and landscape sensitives and areas of extreme and high groundwater vulnerability;
- Parts of the coastline and adjacent coastal areas, including Waterford Estuary, Tramore dunes and coast, the mid-Waterford Coast, Dungarvan Harbour, Helvic Head to Ballyquinn, Ardmore Head and the Blackwater Estuary, on account of European Site and proposed Natural Heritage Area and UNESCO Global Geopark designations, WFD RPA designations, areas of extreme groundwater vulnerability and coastal flood risk;
- Certain locations and areas within the existing built-up footprint of the County, including Waterford City, on account of cultural heritage designations, including entries to the Record of Monuments and Places, Entries to the Record of Protected Structures and Architectural Conservation Areas; and
- Certain areas that are adjacent to streams and rivers, on account of flood risk, including those areas along the Rivers Suir and Blackwater and their tributaries.

The Plan directs incompatible development away from the most sensitive areas in the City and County and focuses on directing: compact, sustainable development within and adjacent to the existing built-up footprints of the City and County's towns and villages; and sustainable development elsewhere, including in rural areas. Development of these generally more robust, well-serviced and well-connected areas of the City and County will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation.

Compact development can be accompanied by placemaking initiatives to enable the City and the County's towns and villages to become more desirable places to live – so that they maintain and improve services to existing and future communities.

Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

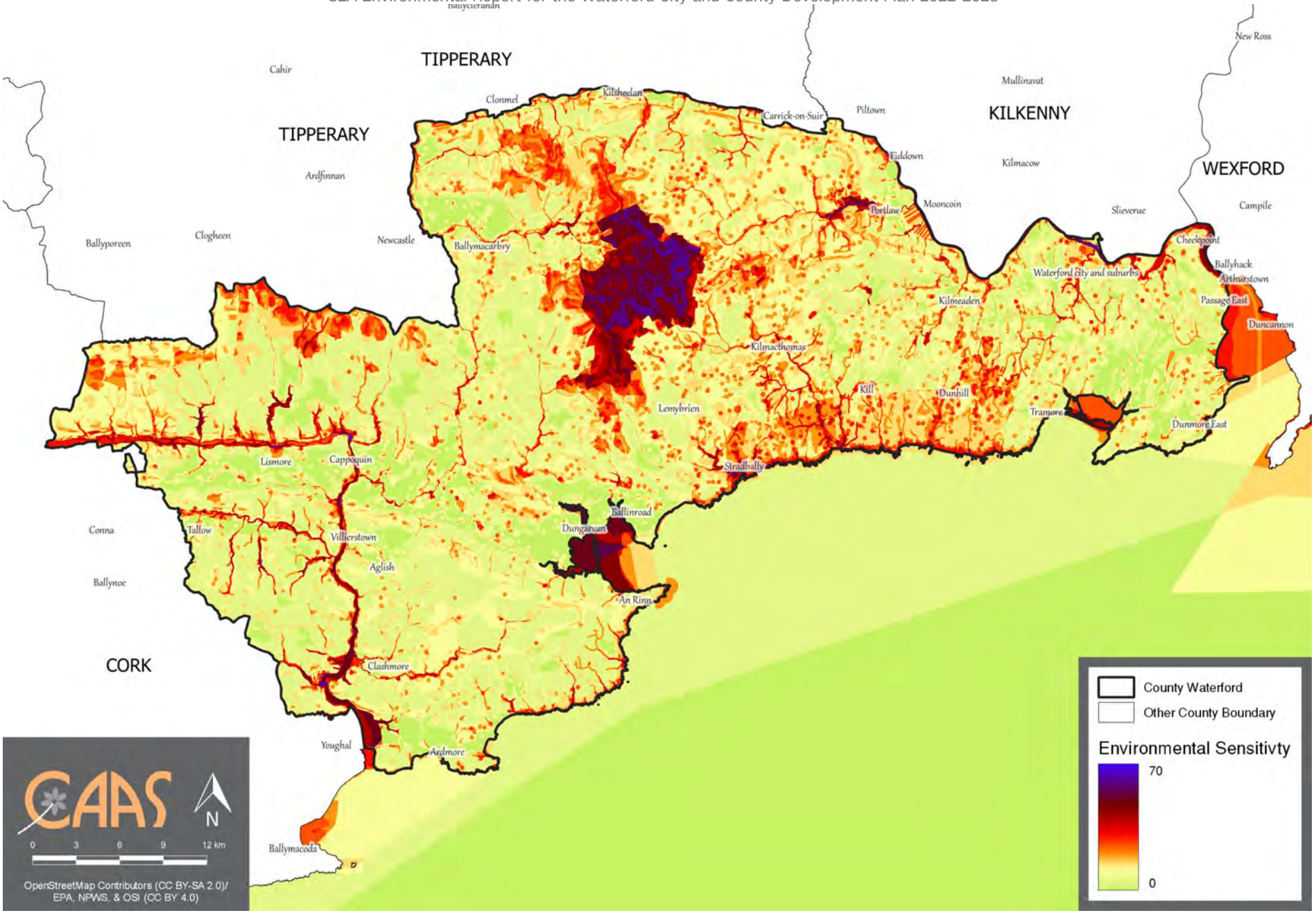


Figure 1.1 Overlay of Environmental Sensitivities in Waterford City and County

Section 2 The Plan

2.1 Introduction

The Waterford City and County Development Plan is a land use plan and overall strategy for the proper planning and sustainable development of Waterford City and County over the six-year period 2022-2028.

2.2 Content of the Plan

The Development Plan comprises a series of separate, but interrelated elements. The Plan is structured as follows:

- Volume 1: Written Statement consisting of the following:
    - Part 1: Vision and Strategy
    - Part 2: Waterford City and MASP Policy Objectives
    - Part 3: Waterford City & County Policy Objectives
- Volume 2: Development Management Standards
- Volume 3: Supporting Appendices (including: Retail Strategy: Housing Need and Demand Assessment; Landscape and Seascape Characterisation Assessment; RPS; ACAs; this SEA Environmental Report; and Natura Impact Report.

2.3 Plan Vision

The Vision of the Plan is as follows:

"By 2028, Waterford City and County will have continued to grow and will be evolving to become an even more attractive, prosperous, resilient, and sustainable place, anchored by Waterford City and Metropolitan area as the Regional Capital, a University and Learning City, and an economic driver for the region. It will be the best city and county in which to live, visit and do business.

We will be recognised as the Regional Capital and for:

- Our enterprise and inventiveness in the knowledge economy and high-value markets – with a particular focus on biopharmaceuticals, technological innovation, tourism, food and drink, fishing, and the primary industries;
- The development and growth of our educational capital through our university and its synergies with the broader economy; and,
- Our unique built, historic, cultural and natural environment, which will be protected and, where appropriate, enhanced as a key asset in underpinning a high quality of health/wellbeing, life and place.

The Council will have taken a proactive approach towards development that promotes and facilitates appropriate and sustainable development, that nonetheless:

- Ensures the sustainable use of natural resources;
- Enables us to live within the area's environmental capacity;
- Enables and enhances our resilience to climate change; and,
- Creates a more open, diverse and inclusive society."

2.4 Plan Core Strategy Strategic Aims

The Core Strategy Strategic Aims of the Plan are as follows:

1. Based on the population/employment targets and policy objectives of the NPF, RSES & MASP, provide a local policy framework to, support development where it is consistent with the principles of sustainable development, and which is applied through planning decisions which are clear, consistent, robust and risk adverse.
2. Identify investment priorities to deliver and support the settlement strategy and hierarchy, founded on the principle of infrastructure led development.
3. Counteract imbalances in housing type, tenure and location both within settlements, between settlements and across broader rural areas in order to meet the needs of the people of Waterford, mitigating current residential leakage and unsustainable travel patterns.
4. To require, where appropriate, all plans and projects to comply with the requirements of the Strategic Environmental Assessment Directive, the Habitats Directive, Water Framework Directive and Floods Directive. Protect the integrity all Natura 2000 sites, (p) HNA's and locally important Biodiversity Sites in Waterford.
5. To ensure the policies and objectives of the Development Plan demonstrate consistency with the national and regional policy objectives set out in the NPF, RSES and MASP.
6. To implement a tiered and infrastructure led approach to the development of new residential land and engage in active land management to bring forward opportunities for redevelopment where feasible.
7. Develop key infrastructure required to deliver the concentric city model for Waterford City, consistent with the NPF, RSES and MASP and founded on the assimilation of PLUTS and WMATS policy objectives.
8. Implement the Waterford City and County Council Climate Adaptation Strategy 2019 (as amended) and promote a climate resilient pattern of development and land uses which assists in achieving national climate change mitigation and adaption targets.
9. To protect and strengthen the retail primacy of Waterford City within the Southern Region.

10. To protect and enhance the vibrancy and vitality of urban and rural centres and their mixed use functions/capacity as community hubs.
11. To enhance the sense of place throughout settlements in Waterford and deliver 10 minute neighbourhoods through enhanced pedestrian and cycle permeability and mixed land use planning.
12. To protect existing employment and promote new employment areas at strategic locations and in district and local services centres across Waterford County.
13. Acknowledge the vital importance of the tourism sector to economic development and continue to encourage and promote the sustainable development of a range of quality tourism facilities, attractions and accommodation types across Waterford.

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

Far in advance of both the submission of the pre-Draft Plan to the Elected Members for approval, the placing of the Draft Plan on public display and the adoption of the Plan, Waterford City and County Council undertook various works in order to inform the preparation of the Plan.

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

Strategic work undertaken by the Council includes background work in relation to Plan Strategies and other provisions for a variety of sectors, including:

- Economy, Tourism, Education and Retail;
- Transport and Mobility;
- Utilities Infrastructure, Energy and Communication;
- Housing and Sustainable Communities;
- Placemaking;
- Climate Action, Biodiversity and Environment;
- Landscape, Coast/ Marine and Blue Green Infrastructure; and
- Heritage.

The undertaking of this SEA process and the associated AA and SFRA processes contributed towards the integration of environmental considerations into individual Plan provisions as detailed in Section 9 of this report.

2.6 Relationship with other relevant Plans and Programmes

It is acknowledged that many of the major issues affecting the City and County's development are contingent on national policy and government funding.

The Plan sits within a hierarchy of statutory documents setting out public policy for, among other things, land use planning, infrastructure, sustainable development, tourism, environmental protection and environmental management. The Plan must comply with relevant higher-level strategic actions and will, in turn, guide lower-level strategic actions. These documents include plans and programmes such as those detailed in Appendix I[2] (see also, Section 4 "Environmental Baseline", Section 5 "Strategic Environmental Objectives", Section 6 "Description of Alternatives" and Section 9 "Mitigation Measures"). These documents have been subject to their own environmental assessment processes, as relevant.

The National Planning Framework (NPF) sets out Ireland's planning policy direction up to 2040. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSESs) and lower tier Development Plans and Local Area Plans. The RSES for the Southern Region sets out objectives for, for example, land use planning, tourism, infrastructure, sustainable development, environmental protection and environmental management that have been subject to environmental assessment and must be implemented through the City and County Development Plan.

[2] 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.

As required by the Planning and Development Act 2000, as amended, the City and County Development Plan is consistent with and conforms with national and regional policies, plans and programmes, including the NPF and the RSES for the Southern Region. The City and County Development Plan will, in turn, guide lower-level strategic actions, such as Local Area Plans that will be subject to their own lower-tier environmental assessments.

In order to be realised, projects included in the Plan (in a similar way to other projects from any other sector) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier AA, EIA and other licencing requirements as appropriate) that form the statutory decision-making and consent-granting framework.

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

Figure 3.1 provides an overview of the integrated Plan preparation, SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes.

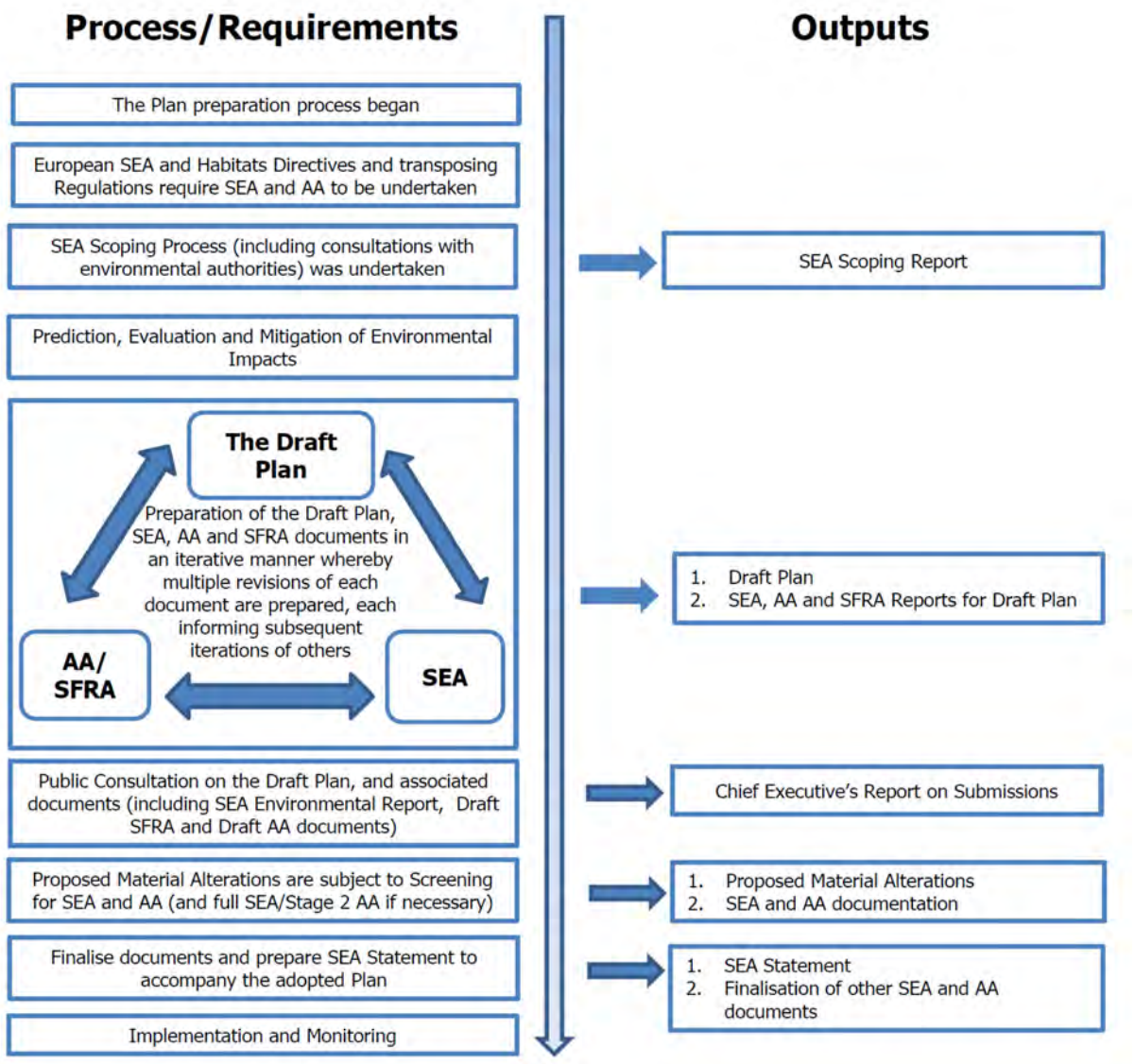


Figure 3.1 Overview of the SEA/AA/SFRA Plan-preparation Processes

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

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

The conclusion of the AA is that the Plan will not affect the integrity of the European Sites, alone or in combination with other plans or projects.[3]

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed the SEA.

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 Plan. These include:

Scoping

- Biodiversity-relevant issues were identified for consideration at scoping stage and these are now detailed in Section 4.
- Reference to a zone of influence is provided at Section 4.

Baseline

- Biodiversity data sources relevant for this local level assessment have been identified and datasets collated/gathered.
- The biodiversity baseline addresses designated sites and other habitats and species of ecological value.
- AA information has been incorporated into the SEA baseline.

Alternatives

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

Impact assessment

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

Mitigation and monitoring

- Taking into account all measures contained within the Plan, 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 received have been taken on board.
- The preparation of the Plan, SEA and AA have taken place concurrently and the findings of the AA have informed the SEA.

3.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014. Recommendations from the SFRA have been integrated into the Plan.

3.4 Scoping

The scope of environmental issues to be dealt with by the SEA of the Plan together with the level of detail to which they are addressed was broadly decided upon taking into account the collection of environmental baseline data and input from environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental components that are specified under the SEA Directive[4].

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

[4] 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.

All relevant environmental authorities identified under the SEA Regulations as amended, were sent SEA scoping notices by the Council indicating that submissions or observations 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[5].

Submissions made by the Environmental Protection Agency, the Department of Communications, Climate Action and Environment and the Department of Culture, Heritage and the Gaeltacht influenced the scope of the assessment undertaken, the findings of which are included in this report.

3.5 Alternatives

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. In accordance with this requirement, alternatives for the Plan are identified and assessed in Sections 6 and 7.

3.6 Instances whereby Environmental Considerations were not integrated into the Plan

The Plan, considered as a whole, contributes towards environmental protection and management and sustainable development and complies with various legislative requirements. This is identified throughout the SEA documentation.

Various Plan provisions that would contribute towards the sustainable development of the County would, at the same time, have the potential to conflict with the environment, were mitigation measures not taken into account. This is normal and mitigation measures have been integrated into the Plan to deal with these potential effects.

However, a number of alterations were adopted by the Elected Members as part of the Plan that are particularly internally inconsistent with the overall approach provided for by the Plan, including those which are identified on Table 3.1 and were advised against by the Plan-preparation/SEA process. Also included on Table 3.1 is advice that was provided by the SEA for consideration in advance of adoption of the Plan.

[5] The following authorities were notified (the names of some of the authorities have changed since notification was provided as a result of changes in Ministerial responsibilities across Departments): Department of Agriculture, Food and the Marine; Department of Culture, Heritage, and the Gaeltacht; Department of Communications, Climate Action and Environment; Department of Housing, Planning and Local Government; Environmental Protection Agency; Cork County Council; Tipperary County Council; Kilkenny County Council; and Wexford County Council.

Table 3.1 Alterations Advised Against but Adopted (including:)

Material Alterations No's.	Commentary provided in advance of Plan Adoption	Mitigation Identified	Recommendation provided in advance of Plan Adoption
205, 211, 225, 284 and 305	Taking into account higher-level planning objectives, these alterations are not justified and it would not provide the most evidence-based framework for development. These alterations would not be consistent with established population targets and/or the proper planning and sustainable development of the County. As a result they would present additional, unnecessary and potentially significant adverse effects on various environmental components, including soil, water, biodiversity, air and climatic factors and material assets. For alterations relating to zoning, much of the zoning proposed is considered to be premature in the context of current population targets. Potentially significant adverse unnecessary effects, would be likely to include: • Effects on non-designated habitats and species • Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces • Increased loadings on water bodies • Conflict with efforts to maximise sustainable compact growth and sustainable mobility • Occurrence of adverse visual impacts Where such alterations are further from the centre of settlements, potentially significant unnecessary adverse effects would be likely to include: • Difficulty in providing adequate and appropriate waste water treatment as a result of zoning outside of established built development envelopes of settlements (At An Rinn, in particular, the Council have identified major network capacity issues and that pump station and network upgrades are required to deal with current loading) • Adverse impacts upon the economic viability of providing for public assets and infrastructure • Adverse impacts upon carbon emission reduction targets in line with local, national and European environmental objectives • Conflicts between transport emissions, including those from cars, and air quality • Conflicts between increased frequency of noise emissions and protection of sensitive receptors • Potential effects on human health as a result of potential interactions with environmental vectors	• Taking into account higher-level planning objectives, these alterations are not justified and it would not provide the most evidence-based framework for development. • Protect the environment and contribute towards sustainable development.	Do not adopt as part of Draft Plan

3.7 Environmental Report

This SEA Environmental Report predicts and evaluates the likely significant effects of the Plan and the alternatives.

The Environmental Report provides Waterford City and County Council, stakeholders and the public with a clear understanding of the likely environmental consequences of implementing the Plan.

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

An earlier version of this report was report was updated in order to take account of relevant recommendations contained in submissions and in order to take account of changes that were made to the original, Draft Plan that was placed on public display.

The Environmental Report is required to contain the information specified in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended (see Table 3.1).

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

There is a data gap relating to WFD surface water status data. There are a number of waterbodies within the Plan area with overall status currently not assigned to them and the term “unassigned status” applies in respect of these waterbodies. The SEA ensured that the Plan contains measures that will contribute towards the maintenance and improvement of status of all water bodies within the zone of influence.

There is uncertainty about water services capacity and demand at certain plants in the County. The SEA ensured that the Plan contains measures that will help to ensure that new development is served by adequate and appropriate water services.

3.8 SEA Statement

On finalisation of the Plan, an SEA Statement is prepared that includes information on:

- How environmental considerations have been integrated into the Plan, highlighting the main changes to the Plan that 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 Plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Plan as adopted was selected; and
- The measures decided upon to monitor the significant environmental effects of implementing of the Plan.

Table 3.2 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section 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 and Appendices II and III
(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 of 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, 9 and Appendix I
(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 3, 6, 7 and 8
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Appendix IV Non-Technical Summary
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Environmental Baseline

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 described 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 description includes information that is relevant to lower tier planning, environmental assessments and decision-making[6].

Given the potential for impacts beyond the City and County boundary, the spatial scope of the SEA takes into account the zone of influence (15km or greater where relevant) of the Plan.

4.2 National Reporting on the Environment

The EPA's *"Ireland's Environment – An Assessment 2020"* report provides an integrated assessment of the overall quality of Ireland's environment, the pressures being placed on it and the societal responses to current and emerging environmental issues. This report has informed various parts of the environmental baseline provided below. The key environmental challenges or messages identified by the report are:

Environmental Policy Position
A national policy position for Ireland's Environment.

Full implementation
Full implementation of existing environmental legislation and a review of the governance around the coordination on environmental protection across public bodies.

Health and Wellbeing
Protecting the Environment is an Investment in Our Health and Wellbeing.

Climate
Systemic change is required for Ireland to become the climate-neutral and climate resilient society and economy that it aspires to be.

Air Quality
Adoption of measures to meet the World Health Organization air quality guideline values should be the target to aim for in the Clean Air Strategy.

Nature
Safeguard nature and wild places as a national priority and to leave a legacy for future generations.

Water Quality
Improve the water environment and tackle water pollution locally at a water catchment level.

Marine
Reduce the human-induced pressures on the marine environment.

Clean Energy
Ireland needs to move rapidly away from the extensive use of fossil fuels to the use of clean energy systems.

Environmentally Sustainable Agriculture
An agriculture and food sector that demonstrates validated performance around producing food with a low environmental footprint.

Water Services
Drinking water and wastewater infrastructure must meet the needs of our society.

Circular Economy
Move to a less wasteful and circular economy where the priority is waste prevention, reuse, repair and recycling.

Land Use
Promote integrated land-mapping approaches to support decision-making on sustainable land use.

The report highlights that high-quality green and blue spaces are not just for nature but are for peoples' health and wellbeing, particularly in the context of an increasingly urban society and increasing settlement densities.

[6] 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.

4.3 Sustainable Development Goals

Implementation of the Plan will contribute towards efforts to achieve a number of the 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development, which were adopted by world leaders in 2015 at a United Nations Summit and came into force in 2016. These Goals include:

- Goal 3. Ensure healthy lives and promote well-being for all at all ages.
- Goal 6. Ensure availability and sustainable management of water and sanitation for all.
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
- Goal 12. Ensure sustainable consumption and production patterns.
- Goal 13. Take urgent action to combat climate change and its impacts.
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

4.4 Likely Evolution of the Environment in the Absence of a new Plan

In the absence of a new Plan it is uncertain how permission for new development would be applied for and considered.

The current City and County Plans have contributed towards environmental protection within Waterford City and County. If the current City and County Plans were to expire and not be replaced by a new Plan, this would result in a deterioration of the City and County's planning and environmental protection framework. Although higher level environmental protection objectives – such as those of various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be less coordinated and controlled.

As a result, there would be a decreased likelihood in the extent, magnitude and frequency of positive effects occurring, including:

- Contribution towards protection of ecology (including designated sites, ecological connectivity, habitats) by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.
- Contribution towards the maintenance of existing green infrastructure and associated ecosystem services, listed species, ecological connectivity and non-designated habitats.
- Contribution towards protection and/or maintenance of biodiversity and flora and fauna by contributing towards the protection of natural capital including the environmental vectors of air, water and soil. Biodiversity and flora and fauna includes biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species (including birds and bats), listed/protected species, ecological connectivity and non-designated habitats (including terrestrial and aquatic habitats), and disturbance to biodiversity and flora and fauna – including terrestrial and aquatic biodiversity and flora and fauna.
- Sustains existing sustainable rural management practices – and the communities who support them – to ensure the continuation of long-established managed landscapes and the flora and fauna that they contain.
- Promotion of economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management.
- Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond.
- Contribution towards the protection of human health by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.
- Contributes towards protection of human health as a result of contributing towards the protection of natural capital including environmental vectors, including air and water.
- Contribution towards the protection of soils (including those used for agriculture) and designated sites of geological heritage by facilitating development of lands (including those within and adjacent to the City and County

settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.

- Contribution towards the protection of the environment from contamination the highest standards of remediation, and where appropriate to consultations with the EPA and other relevant bodies, will be required to resolve any instances of environmental pollution created by contaminated land.
- Contribution towards the protection of water by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.
- Contributions towards the protection of water resources including the status of surface and groundwaters and water-based designations.
- Contribution towards flood risk management and appropriate drainage.
- Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond.
- Contribution towards compliance with national and regional water services and waste management policies.
- Contribution towards increase in renewable energy use by facilitating renewable energy and electricity transmission infrastructure developments.
- Contribution towards limits in increases in energy demand from the transport sector by facilitating sustainable compact growth.
- Contribution towards reductions in average energy consumption per capita including promoting sustainable compact growth, sustainable mobility, sustainable design and energy efficiency.
- Contribution towards climate mitigation and adaptation by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond.
- In combination with other plans, programmes etc., contribution towards the objectives of the wide policy framework relating to climate mitigation and adaptation, and associated contribution towards maintaining and improving air quality and managing noise levels, including through measures relating to:
    - Sustainable compact growth;
    - Sustainable mobility, including walking, cycling and public transport;
    - Drainage, flood risk management and resilience;
    - Sectors including agriculture, forestry, energy and buildings; and
    - Sustainable design, energy efficiency and green infrastructure.
- Contributes towards protection of cultural heritage elsewhere in the City and County by facilitating development within existing settlements.
- Contributes towards protection of cultural heritage within existing settlements by facilitating brownfield development and regeneration.
- Contributes towards protection of wider landscape and landscape designations by facilitating development within existing settlements.

In addition, as a result, there would be an increased likelihood in the extent, magnitude and frequency of adverse effects on all environmental components occurring, including:

- 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; and
    - Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.
- Potential interactions if effects arising from environmental vectors.
- Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands.
- Potential for riverbank and coastal erosion.
- Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology.
- Increase in flood risk and associated effects associated with flood events.
- Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts).
- Increases in waste levels.
- Potential impacts upon public assets and infrastructure.
- Interactions between agriculture and soil, water, biodiversity and human health – including phosphorous and nitrogen deposition as a result

of agricultural activities and the production of secondary inorganic particulate matter.
- Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives.
- Potential conflicts between transport emissions, including those from cars, and air quality.
- Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors.
- Potential conflicts with climate adaptation measures including those relating to flood risk management.
- Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
- Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.

4.5 Natural Capital and Ecosystem Services

Waterford City and County's **natural capital** comprises its renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of ecosystem services that provide benefits to people. These benefits can include clean air and water, a stable climate, protection from floods, food, resources for fuel, building materials, clothes and medicines, recreation. Managing natural capital so that it can continue to deliver the ecosystem services that give us these benefits is important in order to ensure sustainable development. Unmanaged natural capital risks the continued degradation and depletion of these assets, and in turn, of their capacity to provide the economy and society with the ecosystem benefits that they depend on. These services also regulate climate, regulate water flows (e.g. through wetlands and forests), sequester and store carbon in peatlands and improve soil quality for crops.

Ecosystems are multifunctional communities of living organisms interacting with each other and their environment. Ecosystems provide a series of services for human well-being (ecosystem services) either directly or indirectly contributing towards human wellbeing. There are four main types; provisioning, regulating, supporting and cultural services. Provisioning services are the products obtained from ecosystems such as food, fresh water, wood, fibre, genetic resources and medicines. Regulating services are defined as the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control. Support services highlight the importance of ecosystems to provide habitat for migratory species and to maintain the viability of gene-pools. Cultural services include non-material benefits that people obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic values[7].

In preparing the Plan and developing policy objectives, the Council have followed these ecosystem services approach principles:

a) Consideration of natural systems - by using knowledge of interactions in nature and how ecosystems function (including at Plan Chapters 9 and 10);
b) Taking into account of the services that ecosystems provide - including those that underpin social and economic well-being, such as flood and climate regulation (including at Plan Chapter 9), resources for food, fibre or fuel (including at Plan Chapter 4), or for recreation, culture and quality of life (including at Plan Chapters 11);
c) Involving people - those who benefit from the ecosystem services and those managing them need to be involved in decisions that affect them. Public consultation has informed the preparation of the Plan which was further refined before adoption, taking into account submissions/observations made on the Draft Plan during public display.

The following natural capital and ecosystem services issues are relevant to this SEA and have been taken into account in the provisions of the Plan:

- Air quality;
- Noise pollution;
- Light pollution;
- Water quality and river basin management including interactions with soil;
- Soil and vegetation carbon, which helps to regulate greenhouse gas emissions;
- Soil/geological storage of water, contributing towards flood control;
- Land supporting food production; and
- Natural resources supporting energy production and recreation.

4.6 Biodiversity and Flora and Fauna

4.6.1 Introduction

Information on biodiversity and flora and fauna that is relevant to project planning and

[7] https://biodiversity.europa.eu/topics/ecosystem-services

development and associated environmental assessment and administrative consent of projects includes that on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats.

4.6.2 Overview of High Value Biodiversity and Designations

The most ecologically sensitive and heavily designated and protected areas within County Waterford include upland areas (including peat bogs) and coastal areas (including intertidal flats, islands, sand and dunes). Coastal waters and various rivers and lakes provide habitats for sensitive species. Dispersed areas of marginal agricultural lands that may include ecological sensitivities occur throughout the County's lowlands and foothills.

A network of green spaces, including gardens, parks, graveyards, amenity walks, railway lines and patches of woodland and scrub, provide habitats and ecological connectivity within the County and beyond.

Ecological designations in County Waterford include:

- Special Protection Areas[8];
- Special Areas of Conservation[9];
- Proposed Natural Heritage Areas[10];
- Certain entries to the Water Framework Directive Register of Protected Areas[11];
- Salmonid Rivers identified by Regulations (S.I. 293 only)[12];
- Freshwater Pearl Mussel Catchments[13];
- Shellfish Areas[14];
- Wildfowl Sanctuaries[15];
- OSPAR Sites[16];
- Ramsar Sites[17];
- Flora Protection Order sites[18];
- Tree Preservation Orders[19]; and
- UNESCO Global Geopark[20].

The zone of influence of the Plan beyond the County area with respect to impacts upon ecology via surface waters upon ecological resources – including designated ecology – can be estimated to be areas within 15 km of the County boundary and all downstream areas of catchments which drain the County.

4.6.3 European Sites

European sites in the County occur in the greatest concentrations along the coastline and in upland areas. European sites comprise:

- Special Areas of Conservation[21] (SACs); and
- Special Protection Areas[22] (SPAs).

The SEA uses the same general zone of influence cited in the AA, a 15 km buffer around the County. There are 24 European sites (14 SACs and 10 SPAs) designated within this zone (mapped on Figure 4.1) out of which 15 European sites (9 SACs and 6 SPAs) are designated within or partially within the County.

All relevant European sites[23] shown on Figure 4.1 and their sensitive features are listed in the

[8] For more detail refer to Section 4.6.3.
[9] For more detail refer to Section 4.6.3.
[10] For more detail refer to Section 4.6.4.
[11] For more detail refer to Sections 4.6.6 and 4.9.7.
[12] For more detail refer to Section 4.6.7.
[13] For more detail refer to Section 4.6.8.
[14] For more detail refer to Section 4.6.6.
[15] Areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. **There are two Wildfowl Sanctuaries within or partially within the Plan area: Coolfin Marshes (WFS-50); and River Blackwater (WFS-51).**
[16] Under the OSPAR Convention to Protect the Marine Environment of the North East Atlantic, Ireland committed to establishing marine protected areas to protect biodiversity (OSPAR MPAs). There are currently 19 OSPAR MPAs in Ireland, which established a number of its SACs as OSPAR MPAs for marine habitats. **There is one OSPAR Site designated adjacent to the Plan area: Tramore Dunes and Backstrand MPA (O-IE-0002974).**
[17] For more detail refer to Section 4.6.8.
[18] The Flora (Protection) Order, 2015 (S.I. No. 356 of 2015) gives legal protection to 65 species of bryophytes in the Republic of Ireland (25 liverworts and 40 mosses). There are 15 locations within the Plan area with a number of species protected by the Order, including: Tallowbridge (*Orthotrichum sprucei*); Ballynerroon East (*Orthotrichum sprucei*); Knocklofty Bridge (Leptodon smithii); Dromore-Lismore (*Orthotrichum sprucei*); Dungarvan (*Scleropodium touretii*); Deelish (*Fissidens rufulus*); Coumtay (*Hamatocaulis vernicosus*); Coumfea (*Barbilophozia atlantica*); Sgilloge Loughs (*Hamatocaulis vernicosus*).
[19] Tree Preservation Orders (TPOs) have been made for certain trees, groups of trees and woodlands and are identified in the County Development Plan. **The Tree Register of Ireland maintains a register of champion trees and lists over 270 champion trees for County Waterford by virtue of their age, height and girth.**
[20] For more details refer to Section 4.12.1.
[21] SACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in 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. The European Communities (Birds and Natural Habitats) Regulations 2011 consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010. The Regulations have been prepared to address several judgments of the Court of Justice of the European Union against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.
[22] 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 - due to their conservation value for birds of importance in the EU.
[23] Including sites relevant to Waterford City.

Appendix II of this report. European sites partially within or adjacent to Waterford City are mapped on Map 1 in Appendix III. For more detail on European sites please refer to the AA Natura Impact Report that accompanies the Plan and this SEA Environmental Report.

4.6.4 Proposed Natural Heritage Areas

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

There are 31 pNHAs designated within, partially within or adjacent to the County. These sites are mapped[24] on Figure 4.2 and listed in Appendix II of this report. Relevant pNHAs located partially within or adjacent to Waterford City are also mapped on Map 1 in Appendix III.

4.6.5 Land Cover Mapping

CORINE[25] land cover mapping for the County is shown on Figure 4.3. The most dominant land cover type throughout the County is pastures. Concentrations of peat bogs occur mainly in the north-west and central parts of the County. CORINE land cover for Waterford City is also mapped on Map 2 in Appendix III.

Categories from CORINE mapping that may indicate areas with the potential for Annex I habitats within the County (mapped on Figure 4.6) and Waterford City (mapped on Map 3 in Appendix III) include:

- Non-irrigated arable land;
- Fruit trees and berry plantations;
- Pastures;
- Complex cultivation patterns;
- Land principally occupied by agriculture with significant areas of natural vegetation;
- Broad-leaved forest;
- Coniferous forest;
- Mixed forests;
- Natural grassland;
- Moors and heathland;
- Transitional woodland-shrub;
- Beaches-dunes-sands;
- Sparsely vegetated areas;
- Inland marshes;
- Peat bogs;
- Salt marshes;
- Intertidal flats;
- Water courses;
- Water bodies;
- Coastal lagoons;
- Estuaries; and
- Sea and ocean.

4.6.6 Register of Protected Areas

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies that must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas (RPAs). Water bodies designated on these lists (mapped on Figure 4.4 and Figure 4.5) include:

- Shellfish waters[26] (including rivers, coastal and transitional waters and intersecting surface and groundwaters); and
- Surface waters listed on the European Communities (Quality of Salmonid) Regulations 1988 (S.I. 293) and intersecting surface and groundwaters.

RPAs relating to Nutrient Sensitive Waters, Bathing Waters and water bodies used for Drinking Water are addressed under Section 4.9 "Water". There are also a number of water dependent habitats in the County, which have been listed on the Register – these relate to designated SACs and SPAs (see Section 4.6.3). RPAs relating to Waterford City are also mapped in Appendix III (Map 8, Map 9 and Map 10).

[24] Sites in neighboring counties are also shown on Figure 4.2.

[25] The CORINE (Coordinated Information on the Environment) land cover data series was devised as a means of compiling geo-spatial environmental information in a standardised and comparable manner. CORINE has become a key data source for informing environmental and planning policy on a national and European level. The main land cover type in Ireland is agricultural land including forestry, which accounts for two-thirds of the national landmass. Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost one-fifth of the country. While forested areas cover about one-tenth of the country. Despite rapid development in the past two decades, Ireland's landscape is predominantly rural and agricultural.

[26] In order to protect existing shellfish waters and to ensure the future protection of these areas, the European Union introduced the Shellfish Waters Directive (2006/113/EC). The purpose of this Directive is to put in place concrete measures to protect waters, including shellfish waters, against pollution and to safeguard certain shellfish populations from various harmful consequences, resulting from the discharge of pollutant substances into the sea. The Directive applies to the aquatic habitat of bivalve and gastropod molluscs only (includes oysters, mussels, cockles, scallops and clams). It does not include crustaceans such as lobsters, crabs and crayfish.

4.6.7 Salmonid Waters

The Salmonid Regulations (S.I. 293/1988) designate the waters capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*) as protected. 34 (no.) rivers, tributaries and lakes are listed and protected under these Regulations that prescribe quality standards for salmonid waters, the sampling programmes and the methods of analysis and inspection to be used by local authorities to determine compliance with the standards. Sections of the Rivers Blackwater and Bride are listed under the Regulations.

4.6.8 Other Designations

Other designations within County Waterford[27] (mapped on Figure 4.6 and Figure 4.7) include Margaritifera Sensitive Areas, Nature Reserves and Ramsar sites.

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. There are two species of freshwater pearl mussel in Ireland (*Margaritifera* and *Margaritifera durrovensis*) and both are protected under Annex II and Annex V of the EU Habitats Directive. In County Waterford, the Margaritifera Sensitive Areas are found within the following river catchments (mapped on Figure 4.7)[28]:

- Munster Blackwater – Licky (catchments of SAC populations listed in S.I. 296 of 2009);
- Munster Blackwater (catchments of SAC populations listed in S.I. 296 of 2009);
- Suir (previous record Margaritifera, current status unknown);
- Suir - Clodiagh Waterford (catchments of SAC populations listed in S.I. 296 of 2009);
- Tay (catchments of other extant populations); and
- Mahon (catchments of other extant populations).

Nature Reserves (mapped on Figure 4.6) are areas of importance to wildlife, protected under Ministerial order. There are currently 78 Statutory Nature Reserves in Ireland. Most are owned by the State but some are owned by organisations or private landowners. There are two Nature Reserves designated within or partially within the County: Fenor Bog (in the east of the County); and Fiddown Island (in the north-east of the County).

Ramsar sites (mapped on Figure 4.6) are wetlands designated to be of international importance under the Convention of Wetlands of International Importance (especially as Water Fowl Habitat), established at Ramsar in 1971 and ratified by Ireland in 1984. The main aim of the Convention is to secure the designation by each contracting state of wetlands in its territory for inclusion in a list of wetlands of international importance for waterfowl. This entails the commitment of each contracting state to a policy of protection and management of the designated wetlands, and of formulating and implementing planning so as to promote the conservation of designated wetlands and, as far as possible, the wise use of wetlands in its territory. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares. There are three Ramsar sites designated within the County including: Blackwater Estuary (in the south-west of the County); Dungarvan Harbour (in the south of the County); and Tramore Backstrand (in the east of the County).

4.6.9 Other Sites of Ecological Importance

Within and surrounding the County (including Waterford City) ecological networks are made up of components including lakes, wetlands, woodlands, trees and hedgerows. These components provide habitats for flora and fauna and facilitate linkages to the surrounding countryside.

Hedgerows are valuable resource in the countryside, benefiting agriculture, wildlife, the environment, tourism, and the general community. The network of hedges across the country provides links between surviving fragments of other wildlife habitats, thereby allowing the movement and dispersal of species through otherwise hostile agricultural landscapes.

Surveys of Waterford's Wetlands were carried out in 2006 , 2015 and 2021 and recoded 90

[27] Other designation in neighbouring counties are also shown on the Figure 4.6.

[28] Margaritifera Sensitive Areas within and adjacent to Waterford City are also mapped on Map 3 in Appendix III.

wetlands of local biodiversity interest. Wetland areas in County Waterford include a range of high biodiversity value habitats, such as: reed swamp; wet woodland; marsh; lake; reservoir; fen; bog; wet heath; wet grassland; streams; and ditches. Wetland areas, including areas designated for nature conservation and undesignated sites, are likely to support habitats and species of conservation importance and should be given consideration in future development plans adopted by the County.

Peatlands are unique systems comprising of peat soil providing as significant carbon stores and supporting a range of unique species. Most of the peatlands found in County Waterford are mountain blanket bogs. The best developed areas of this type of habitat occur around the Comeragh Mountains. Active blanket bogs and active raised bogs are considered to be priority habitats, listed on Annex I of the EU Habitats Directive. Cutover bog is a variable habitat, or complex of habitats, that can include mosaics of bare peat and re-vegetated areas with woodland, scrub, heath, fen and flush or grassland communities. It occurs where part or all of the original peat has been removed through turf cutting, by the traditional hand method or mechanically, for either domestic or commercial purposes. This habitat is widespread in Ireland surrounding industrially and traditionally cutover raised bogs.

4.6.10 Existing Problems

Ireland's Article 17 report on the Status of EU Protected Habitats and Species in Ireland (DCHG, 2019) identifies various Irish, EU-protected habitats and species to be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. Categories for pressures and threats on Ireland's habitats and species identified by the report comprise:

- Agriculture;
- Forestry;
- Extraction of resources (minerals, peat, non-renewable energy resources);
- Energy production processes and related infrastructure development;
- Development and operation of transport systems;
- Development, construction and use of residential, commercial, industrial and recreational infrastructure and areas;
- Extraction and cultivation of biological living resources (other than agriculture and forestry);
- Military action, public safety measures, and other human intrusions;
- Alien and problematic species;
- Mixed source pollution;
- Human-induced changes in water regimes;
- Natural processes (excluding catastrophes and processes induced by human activity or climate change);
- Geological events, natural catastrophes;
- Climate change; and
- Unknown pressures, no pressures and pressures from outside the Member State.

Ireland's Article 12 Birds Directive Reports and the 6th National Report under the Convention of Biological Diversity identify similar issues.

The Plan includes measures to contribute towards the protection of biodiversity and flora and fauna and associated ecosystem services.

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.

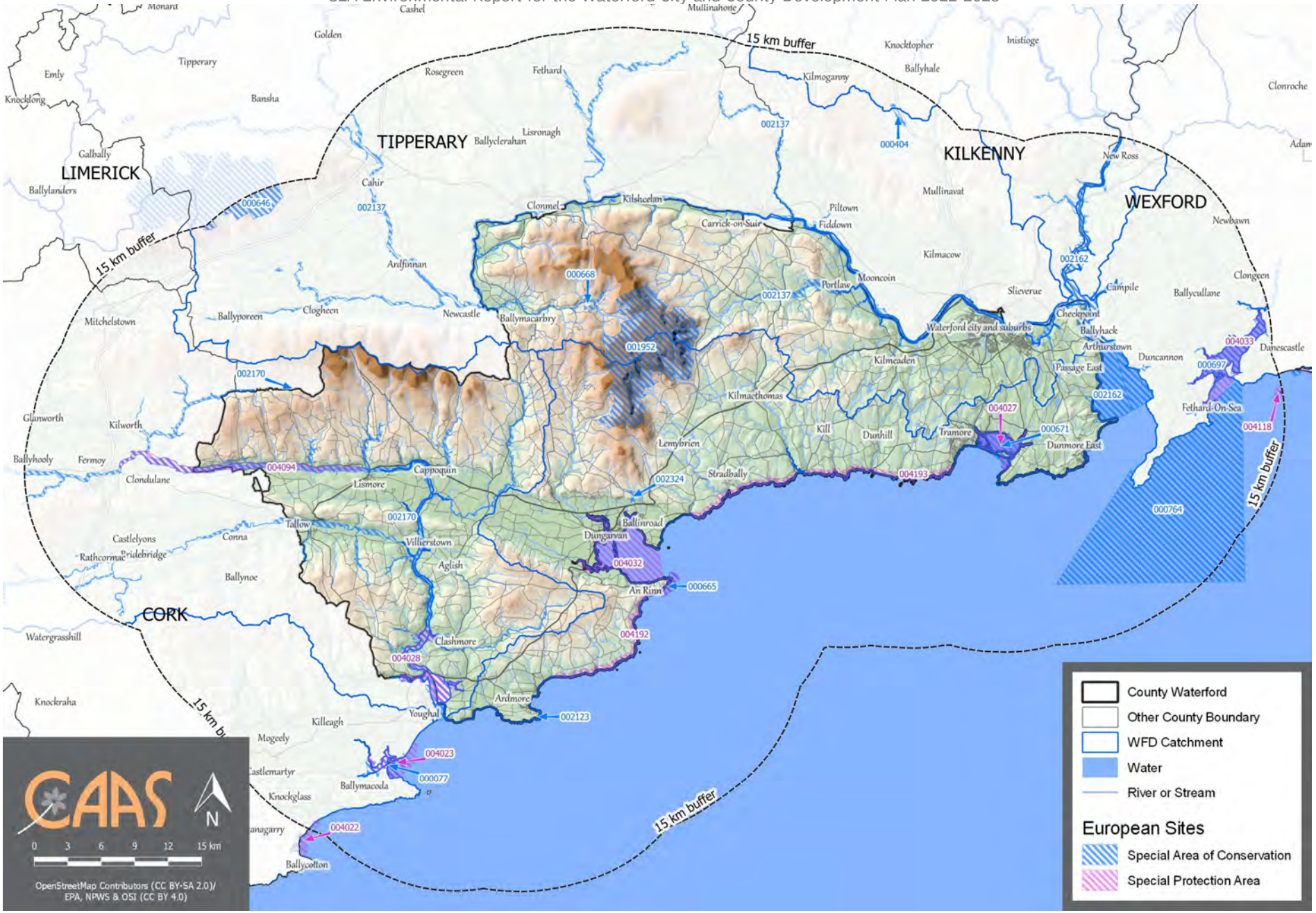


Figure 4.1 European sites within and within 15 km of the County

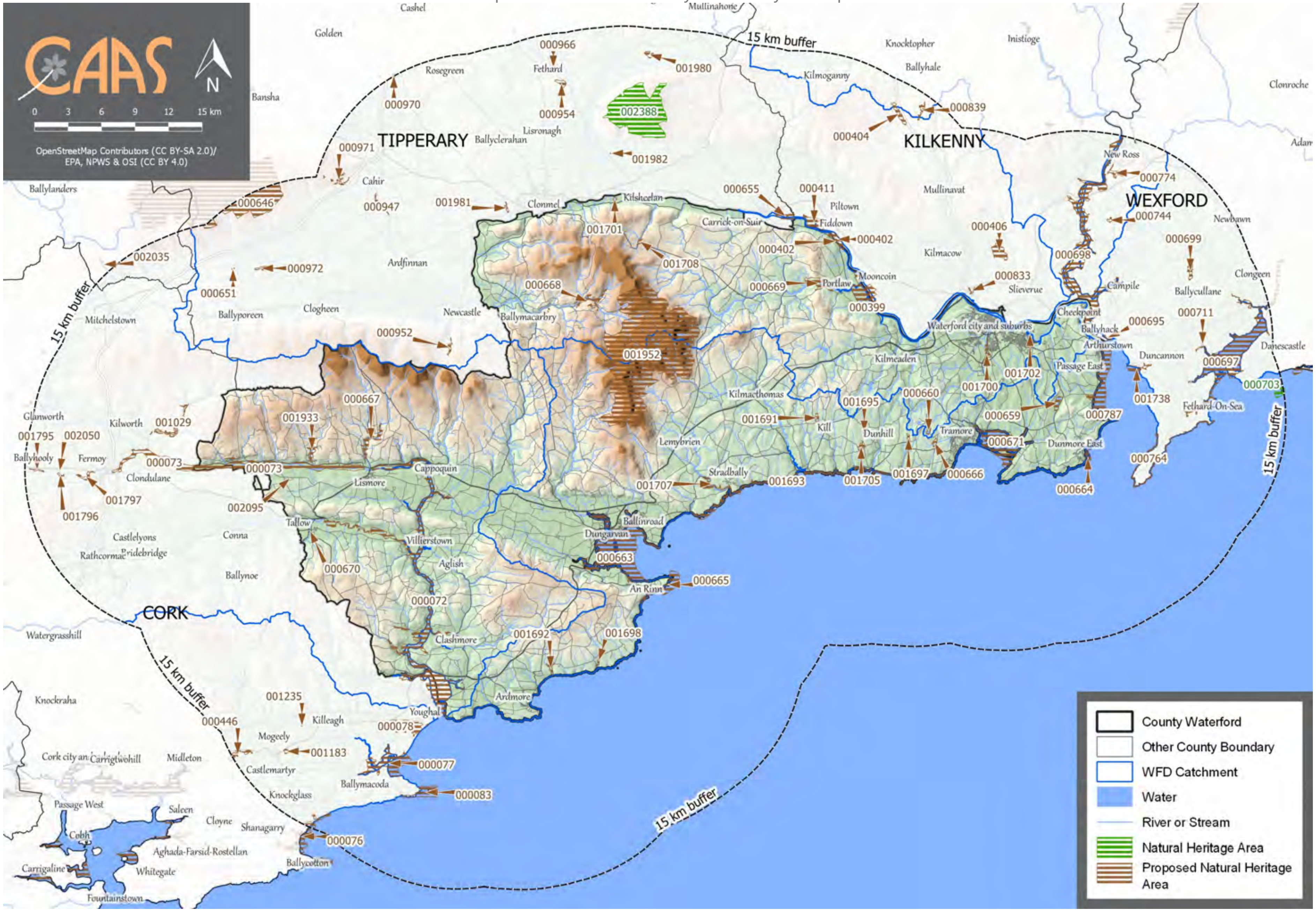


Figure 4.2 Proposed Natural Heritage Areas within and within 15 km of the County

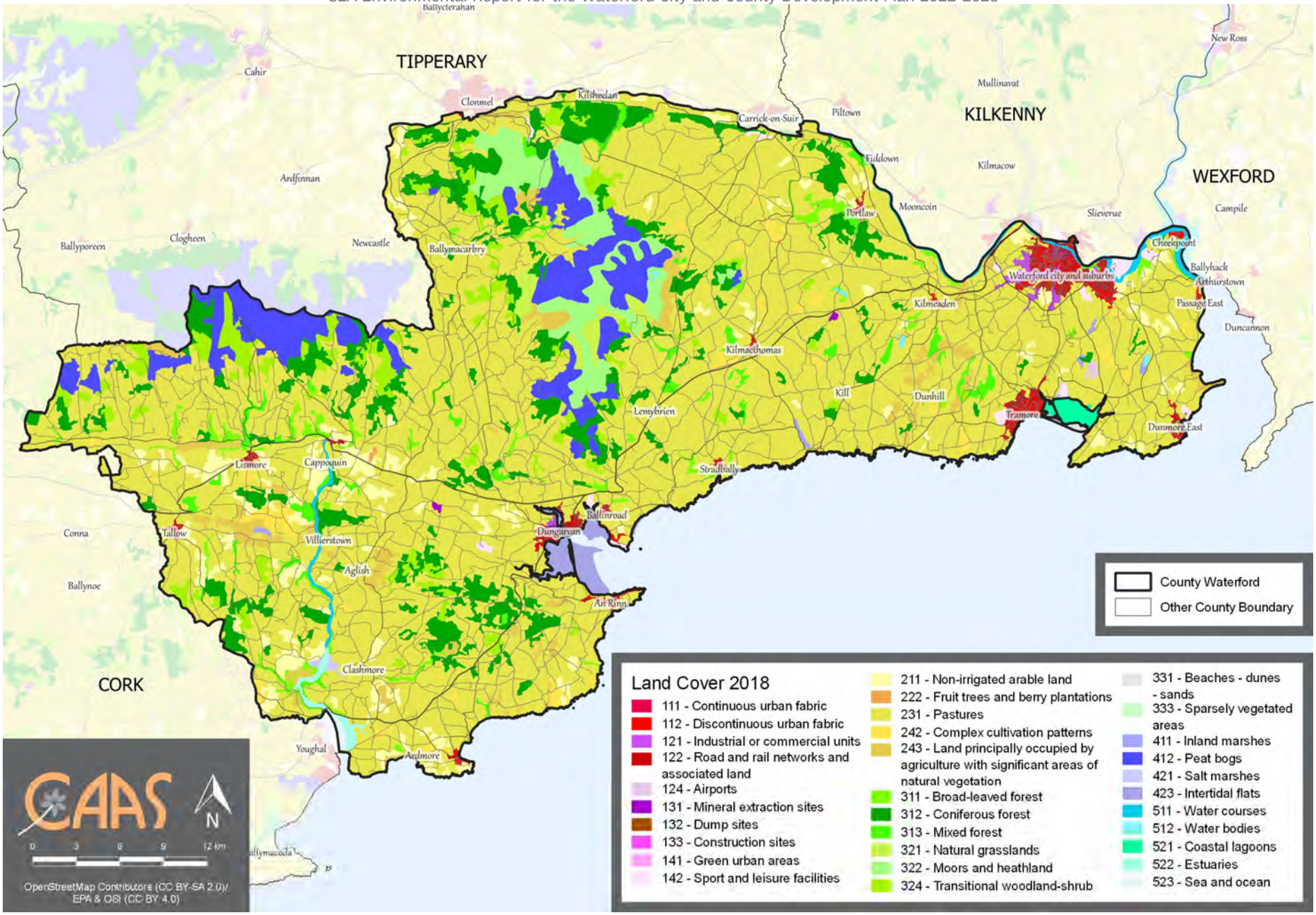


Figure 4.3 CORINE Land Cover 2018

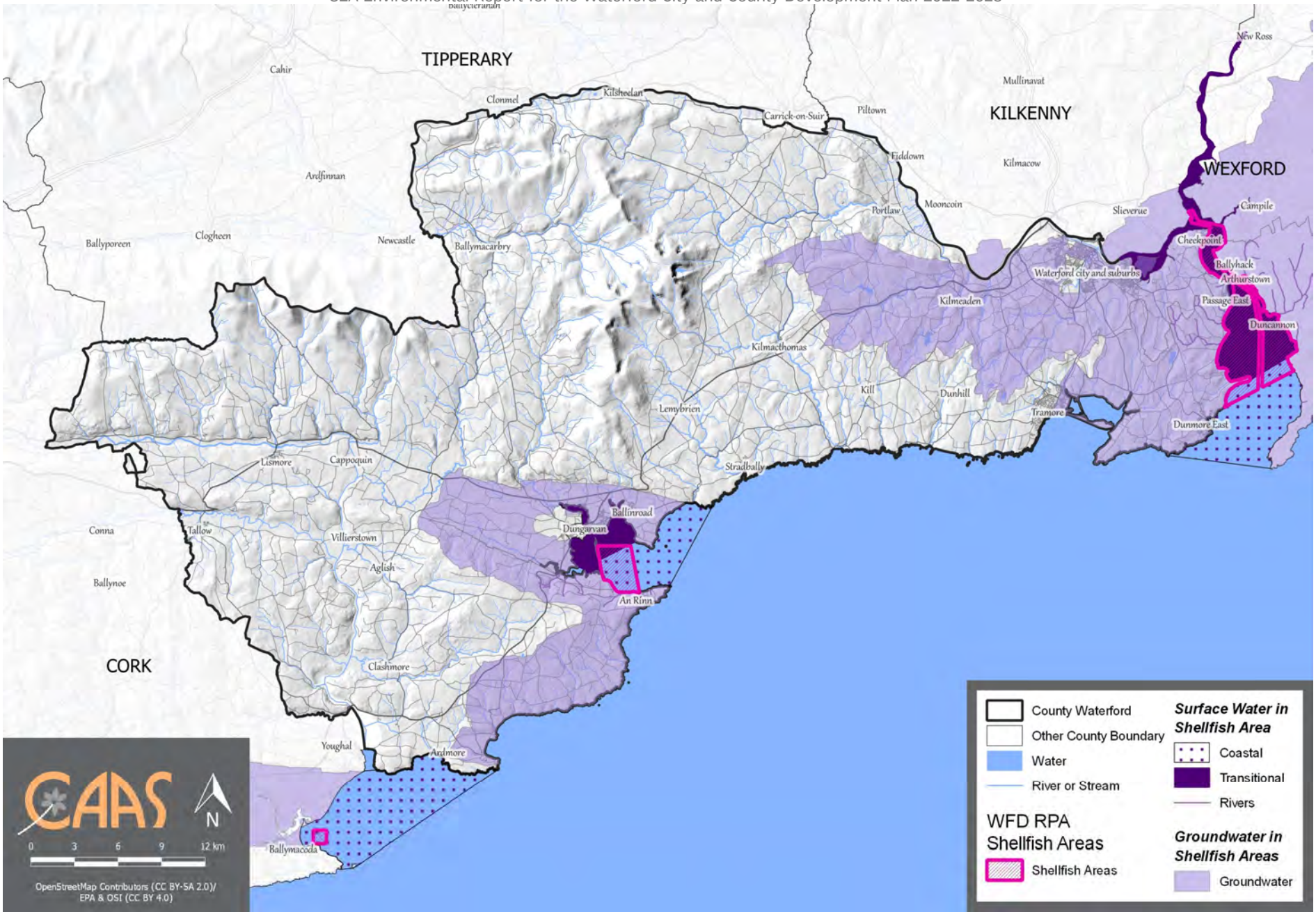


Figure 4.4 WFD Register of Protected Areas Shellfish Areas

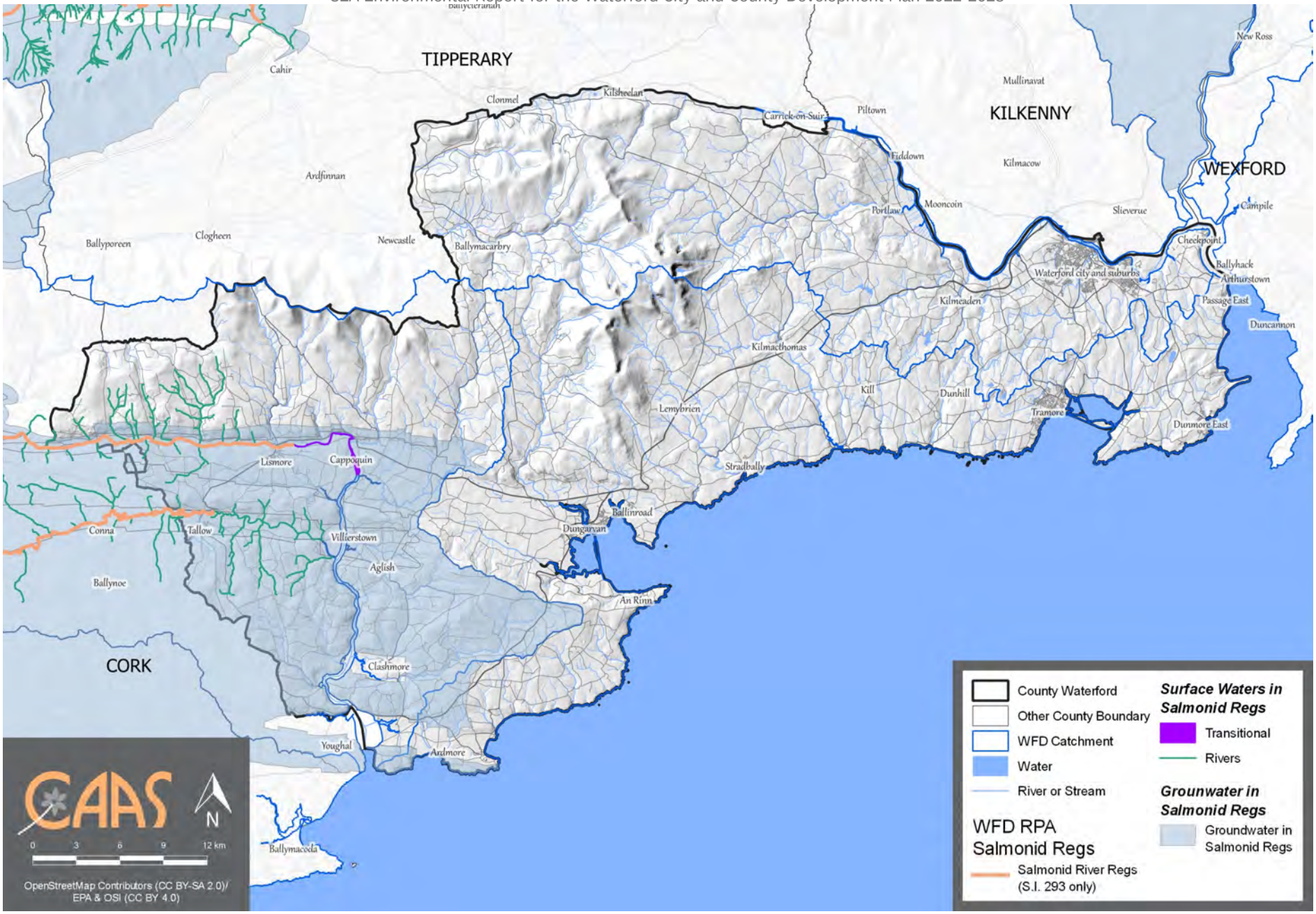


Figure 4.5 WFD Register of Protected Areas Salmonid Waters

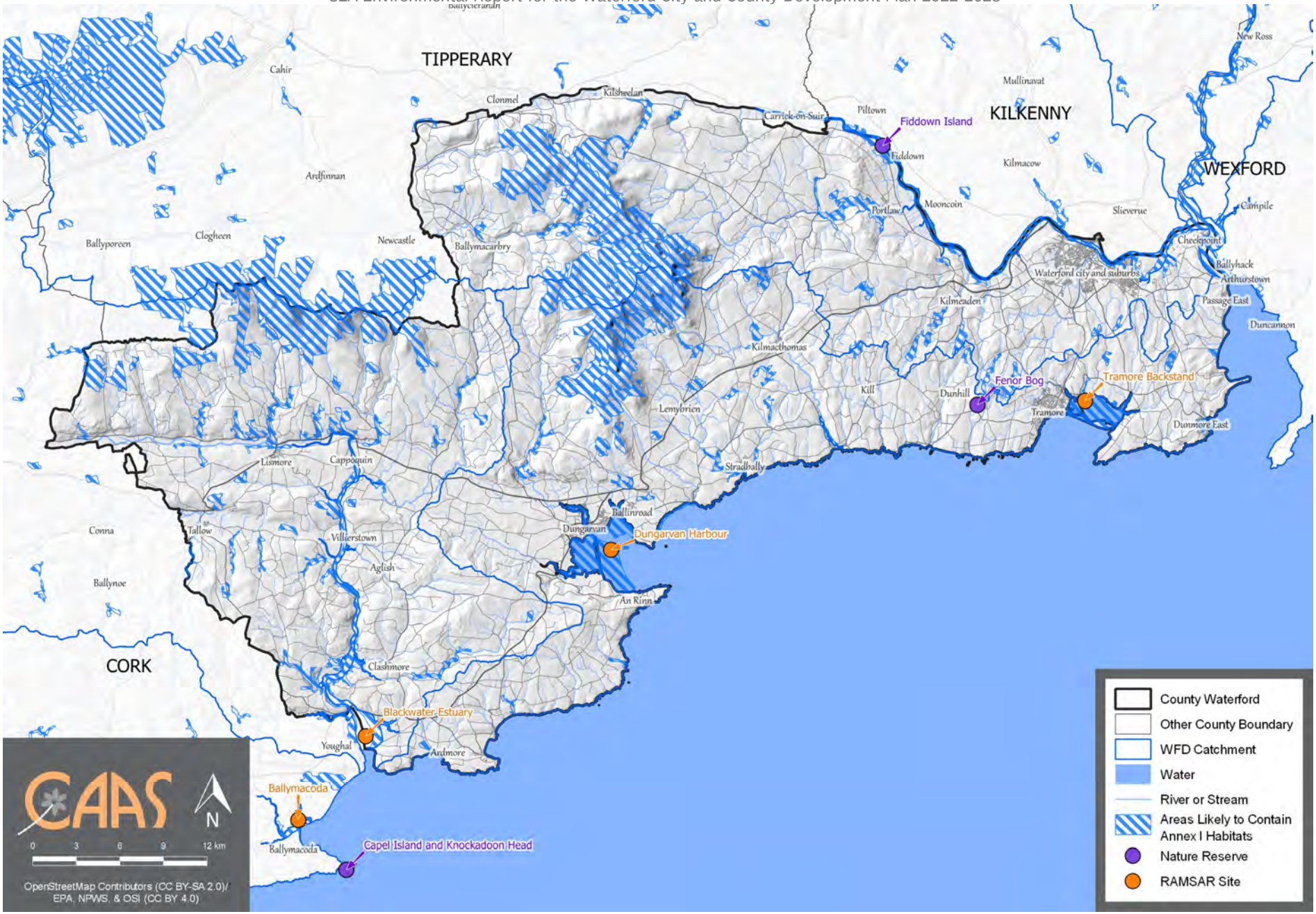


Figure 4.6 Other Ecological Designations

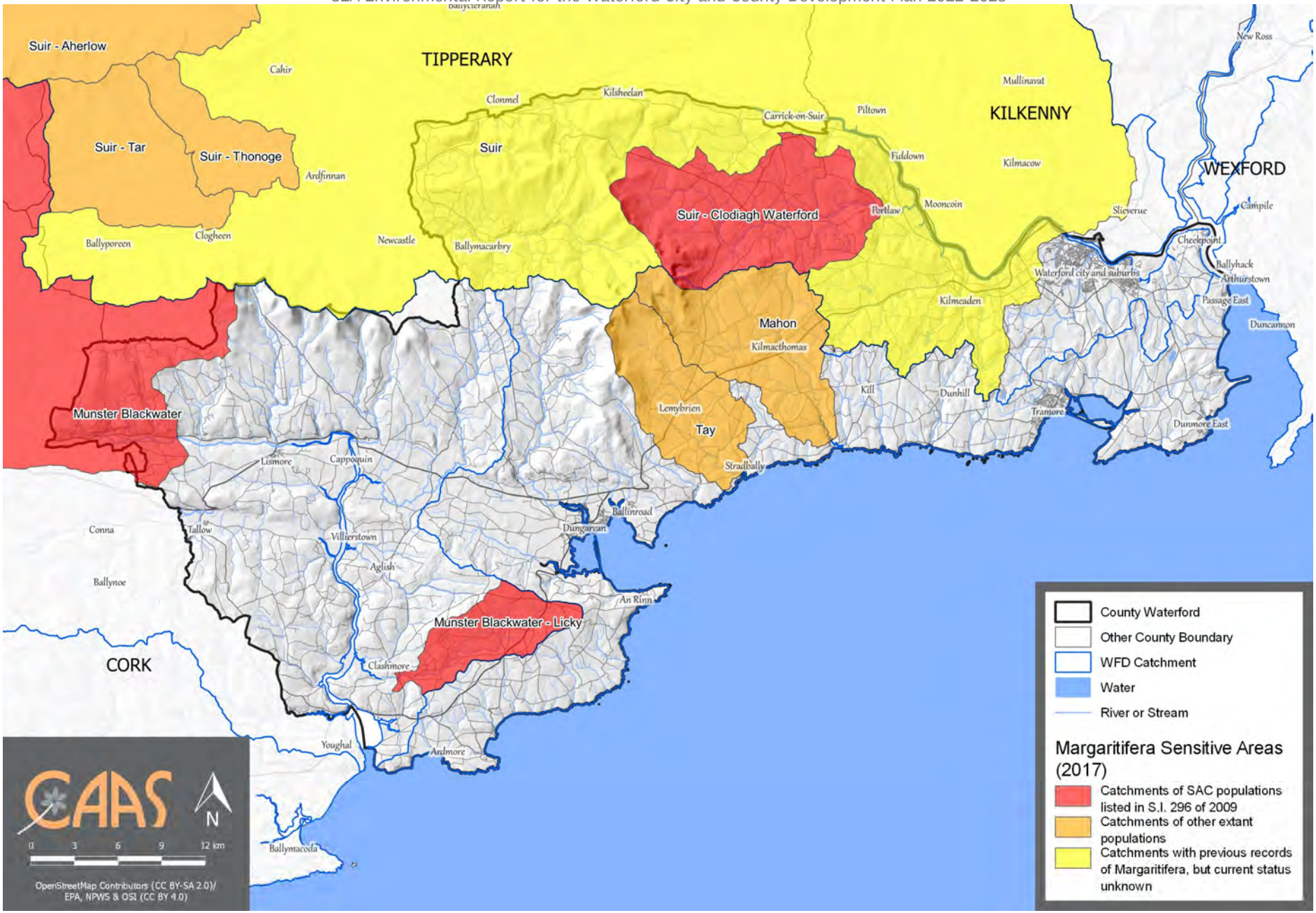


Figure 4.7 Margaritifera Sensitive Areas

4.7 Population and Human Health

4.7.1 Population

In the 2016 Census the total population of Waterford City and County was identified as being of 116,176 persons, an increase in total population in the County by c. 2% (c. 2,381 persons) since the previous census. The population growth targets for the County for 2028 and 2031 are 137,630 persons and 144,000 persons respectively.

In the 2016 Census the total population of Waterford City (within the total city area, including Waterford City, Suburbs and Rural) was identified as being 51,615 persons. Waterford Metropolitan Area is identified by Southern Regional Assembly Regional Spatial and Economic Strategy (RSES) as the principal urban centre of the South-East and a Regional City of Scale. The Waterford Metropolitan Area Strategic Plan (MASP) provides a high-level strategic framework for the sustainable development of the Waterford Metropolitan Area. Dungarvan is identified as a Key Town by the Southern RSES for its strategic location and diverse employment sectors.

The Plan designates a hierarchy of the County's settlements as follows:

- City - Metropolitan Area (Waterford City);
- Key Town (Dungarvan, including Ballinroad, Clonmel Environs)
- Large Urban Town (Tramore);
- Urban Town (Dunmore East, Portlaw and Lismore);
- Large Urban Towns (Ardmore, Cappoquin, Gaeltacht na nDéise (including Old Parish), Kilmacthomas, Passage East/Crooke, Stradbally, Tallow);
- Rural Villages (Aglish, Ballyduff Upper, Ballymacarbry, Bonmahon/Knockmahon, Cheekpoint, Clashmore, Conea Power, Dunhill, Kill, Kilmeaden/Ballyduff, Lemybrien/Kilrossanty, Rathgormuck, Touraneena, Villierstown); and
- Rural Nodes (Annestown, Ballylaneen, Ballymacaw, Butlerstown, Faithlegg, Fenor, Grange, Kilbrien, Knockanore, Mellary, Modeligo, Piltown, Whitechurch).

The new population provided for by the Plan will interact with various environmental components.

Potential interactions include:

- Increase in demand for wastewater treatment at the municipal level;
- Recreational and development pressure on habitats and landscapes;
- Increase in demand for water supply and associated potential impact of water abstraction from the rivers;
- Potential interactions in flood-sensitive areas; and
- Potential effects on water quality.

4.7.2 Human Health

Human health has the potential to be impacted upon by environmental vectors (i.e. 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). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

4.7.3 Existing Problems

There is historic and predictive evidence of flooding in various locations across the County (see information on Strategic Flood Risk Assessment at Section 4.9.9).

The greatest health risk from radiation in Ireland is caused by radon. The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, occurs across the country. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer. Exposure to radon for long periods or at high concentrations can lead to lung cancer. The number of homes within the County with radon levels above the reference level is within the normal range experienced in other locations across the country[29].

[29] Mapping available at http://www.epa.ie/radiation/radonmap

Information on the status of groundwaters and surface waters is provided under Section 4.9 while compliance issues in relation to water services are detailed under Section 4.11.10.

4.8 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 a 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 and environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

To date, there is no legislation which is specific to the protection of soil resources. Although a proposal for a Soil Framework Directive was withdrawn in 2014, the importance of sustainable soil management was recognised in the Seventh Environment Action Programme.

Brown earths[30] (occupying north-east, east, south and south-west of the County) are the most dominant soil type in the County (shown on Figure 4.8). Soil types within Waterford City are also mapped on Map 4 in Appendix III.

Peatlands are unique systems comprising of peat soil providing as significant carbon stores and supporting a range of unique species. Two types of peat are present in the County: basin peats[31] and blanket peats. The most predominant are blanket peat bog areas, which can be found mainly on uplands in the west of the County. Basin peats (raised bogs and fens) are mostly found in the east of the County. Active blanket bogs and active raised bogs are considered to be priority habitats, listed on Annex I of the EU Habitats Directive. Peat soils are often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues. The peatland areas along the uplands of the County are subject to various ecological designations (see Section 4.6).

Other soil types identified include:

- Alluvial soils[32] (in the flood plains of rivers and streams);
- Brown podzols[33] (mainly in the west and north-west of the County);
- Podzols[34] (mainly in the centre, north, north-west and south of the County);
- Surface water gleys[35] (mainly in the north-west of the County);
- Groundwater gleys (mainly in the south of the County);
- Luvisols[36] (mainly in the north and north-east of the County); and
- Plaggen soils[37] (occupying relatively small areas near the coast in the south-west of the County).

Outcropping rock is identified in a number of upland locations.

The GSI (Geological Survey of Ireland) have a suite of data sources available that would be useful in planning and assessing individual projects with regard to the environmental topic(s) of soil and/or material assets. These include:

- Aggregate Potential Mapping;
- Bedrock mapping;
- Quaternary and Physiographic mapping; and
- National Aquifer and Recharge mapping.

4.8.1 Geological Sites

Geological Survey of Ireland coordinates the Irish Geological Heritage Programme, which seeks to identify and select sites of geological interest within each county across the country. The audit of County Geological Sites in County Waterford (completed in 2012) identified 55

[30] Brown earths are well drained mineral soils, associated with high levels of natural fertility.
[31] Basin or fen peats (raised bogs and fens) are formed in lake basins, hollows and river valleys, and blanket peats that accumulate under conditions of high rainfall and humidity in the uplands, which is generally suited to extensive rough grazing.
[32] These are associated with alluvial (clay, silt or sand) river deposits.
[33] Brown podzol soils are characterised by dark brown humus-mineral soil covered with a thin mat of partly decayed leaves.
[34] Podzol soils are Infertile acidic soils with an ash-like subsurface layer associated with acid leaching typically formed under coniferous forest.
[35] Surface water gleys and groundwater gleys are wetland soils with slowly permeable horizons resulting in seasonal waterlogging.
[36] Luvisol soils are generally fertile, widely used for agriculture and associated with significant accumulation of clay.
[37] These soils are altered by additions of sea-sand and seaweed. *Soils of County Waterford* (Soil Survey Bulletin No. 44), National Soil Survey of Ireland and Teagasc, 2011.

County Geological Sites[38], including two overview sites of the Copper Coast and Comeragh Mountains. Concentrations of these designations can be found in the upland areas and along the coast. Waterford County Geological Sites[39] are mapped on Figure 4.9 and listed in Appendix II.

4.8.2 UNESCO Global Geopark

United Nations Educational, Scientific and Cultural Organisation (UNESCO) Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance, managed with a holistic concept of protection, education and sustainable development. They strive to raise awareness of geodiversity and promote protection, education and tourism best practices.

The Copper Coast UNESCO Global Geopark[40] (mapped on Figure 4.10) covers geological and cultural heritage of the historic 19th century metal mines, extending approx. 17 km along the coast in County Waterford.

Whilst Global Geopark is not a legislative designation, the key heritage sites within a Geopark must be protected under local, regional and national legislation as appropriate.

4.8.3 Potentially contaminated lands and landfill sites

In the absence of mitigation, contaminated materials have the potential to adversely impact upon human health, water quality and habitats and species.

As is the case with other areas across the country, there is potential for contamination at sites within County Waterford (including Waterford City) , especially where land uses occurred in the past in the absence of environmental protection legislation. Such contamination has the potential to affect water quality, biodiversity and flora and fauna and human health. Where brownfield redevelopment is proposed, adequate and appropriate investigations are required to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work.

4.8.4 Source Protection 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.

Public Supply Source Protection Areas comprise are managed by Irish Water to supply Public Water Supply Schemes across Ireland. Source Protection Areas provide protection by placing tighter controls on activities within all or part of the zone of contribution of the source.

Groundwater bodies are important water supply sources for private wells, group schemes and local authority supplies and for use in a range of commercial activities. This is particularly the case in rural areas that are not served by public or group water schemes, with private bored wells being the only source of supply.

There are a number of Source Protection Areas in County Waterford, including:

- Public Supply Source Protection Areas, include those at:
  - Ardmore
  - Ballyrohan
  - Cappoquin
  - Dungarvan
  - Grange
  - Kilmacthomas/Ballyogarty
  - Lismore/Cappaquin/Ballyduff/ Ballyhane
  - Poulnagunoge
- Group Scheme Preliminary Source Protection Areas, include those at:
  - Ballydurn
  - Moonminane

Public Supply Source Protection Areas (including Inner and Outer Protection Areas[41]) and Group Scheme Preliminary Source Protection Areas[42] are mapped on Figure 4.11.

[38] *The Geological Heritage of Waterford. An audit of County Geological Sites in Waterford*, Geological Survey of Ireland, 2012.
[39] County Geological Sites in neighbouring counties, which straddle County Waterford boundaries have been also considered by the assessment.
[40] There are currently two other UNESCO Global Geoparks on the island of Ireland: The Marble Arch Caves in counties Cavan and Fermanagh and the Burren and Cliffs of Moher in counties Clare and Galway.
[41] The Zone of Contribution is the land area that contributes water to the well or spring. The Inner Protection Area (SI) is designed to protect against the effects of human activities that might have an immediate effect on the source and, in particular, against microbial pollution. The Outer Protection Area (SO) is encompassing the remainder of the zone of contribution to the groundwater abstraction point (e.g. borehole or spring).
[42] The Group Scheme Preliminary Source Protection Areas comprises Zones of Contribution to groundwater abstraction points that supply Group Water Schemes across Ireland that are affiliated to the

4.8.5 Landslides

The term "landslide" describes a wide variety of processes that result in the downward and outward movement of materials such as rock, debris, earth, mud and peat under the force of gravity. Issues such as existing ground conditions, slope stability and storage of excavated material have the potential to influence susceptibility to landslides/bog bursts. The potential impacts of landslides include loss of human life/injury, flooding, pollution of watercourses and impacts upon aquatic biodiversity.

The County has numerous locations with a history of landslide events[43] (shown on Figure 4.12). Many of these events are associated with the peatland and upland areas in the Comeragh Mountains.

The GSI have identified that most of the County has relatively low levels of landslide susceptibility, with moderate and high susceptibility found in upland areas (as shown on Figure 4.12).

4.8.6 Existing Problems

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

National Federation of Group Water Schemes and that supply more than 15 people.

[43] Over 2,500 landslide events are recorded in the National Landslides Database available from GSI (www.gsi.ie). This dataset also includes Landslide Susceptibility Mapping to assist in the identification of areas that are likely to experience landsliding. Date records are not available for landslide events mapped on Figure 4.12.

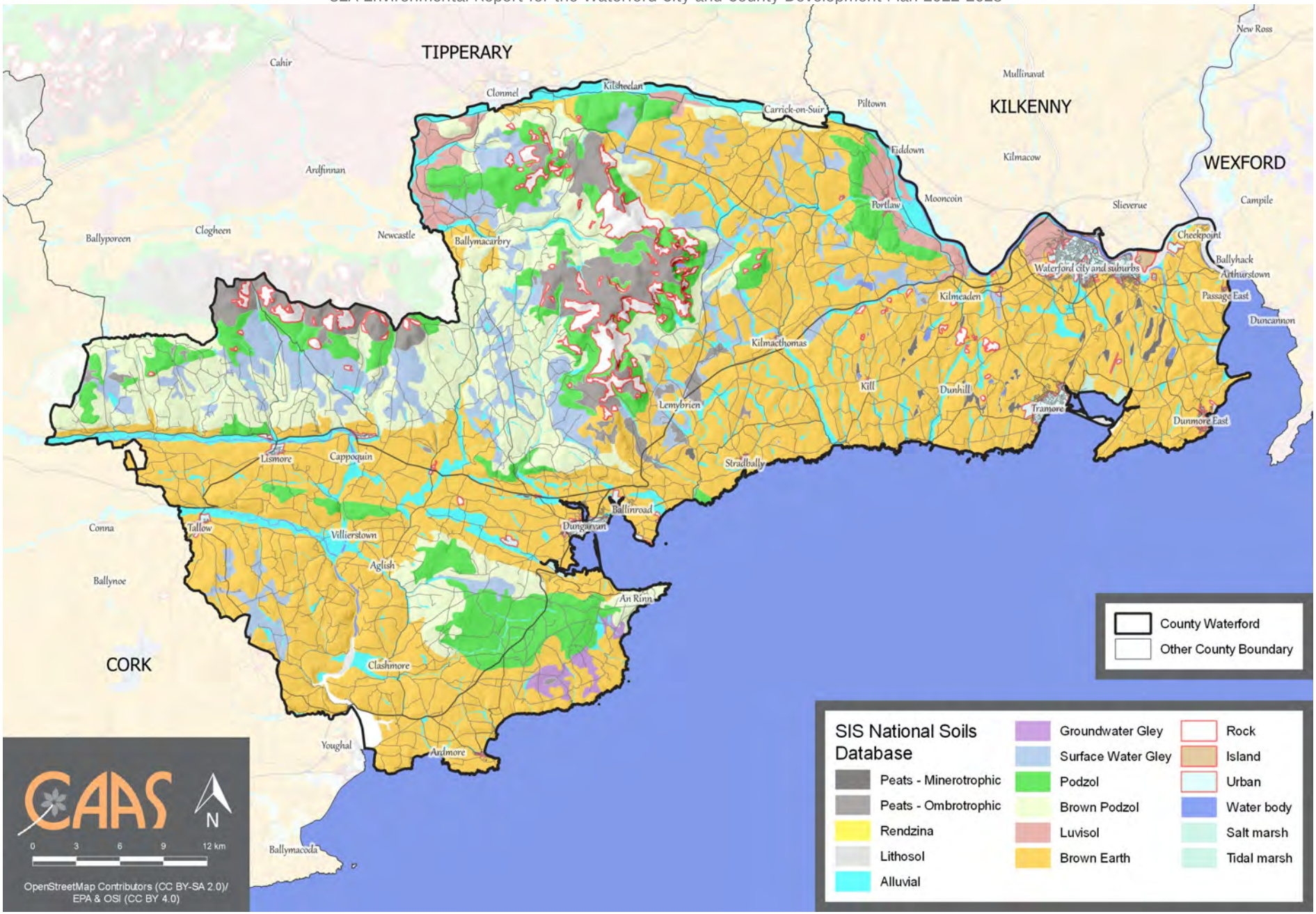


Figure 4.8 Soil Type

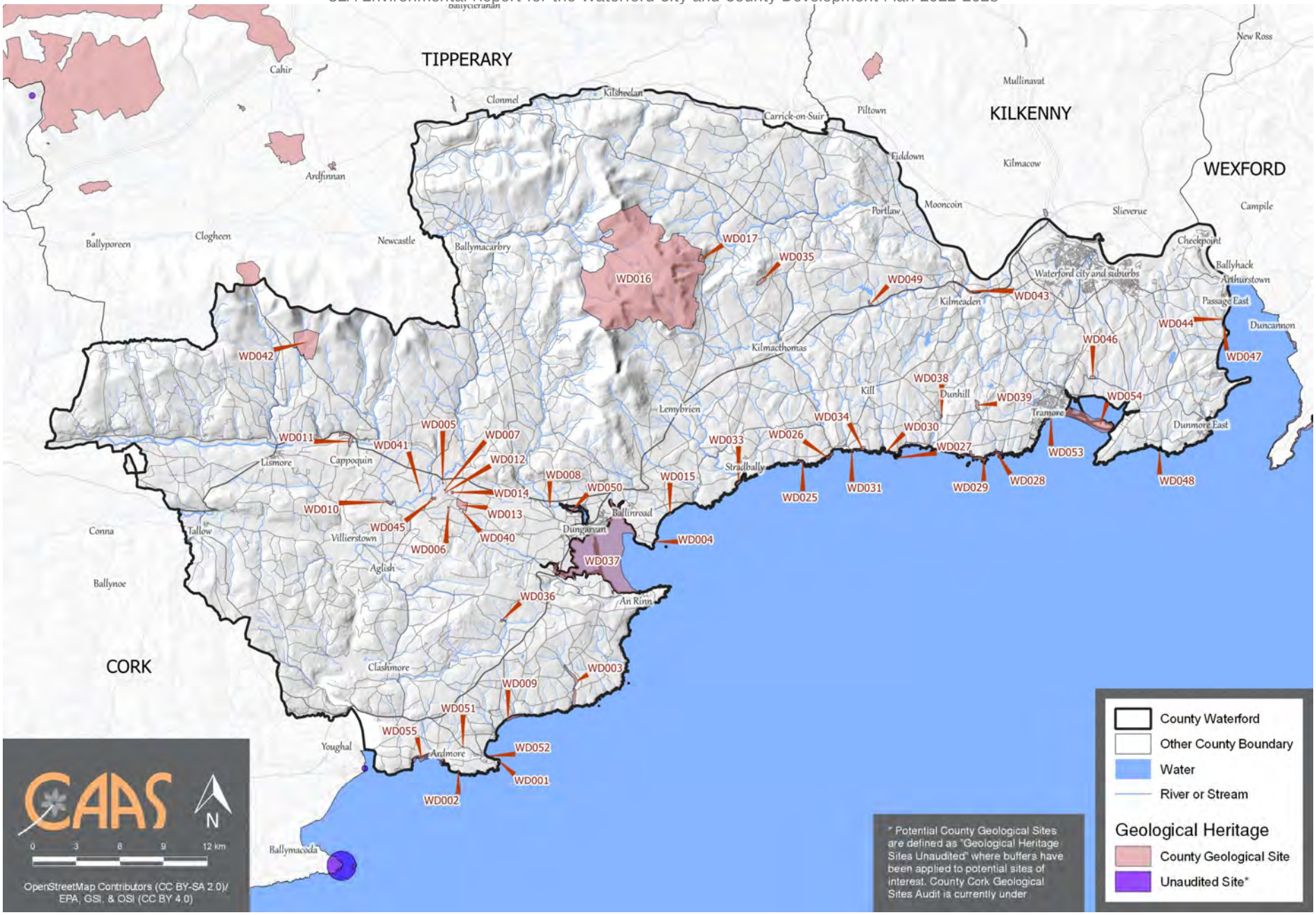


Figure 4.9 County Geological Sites

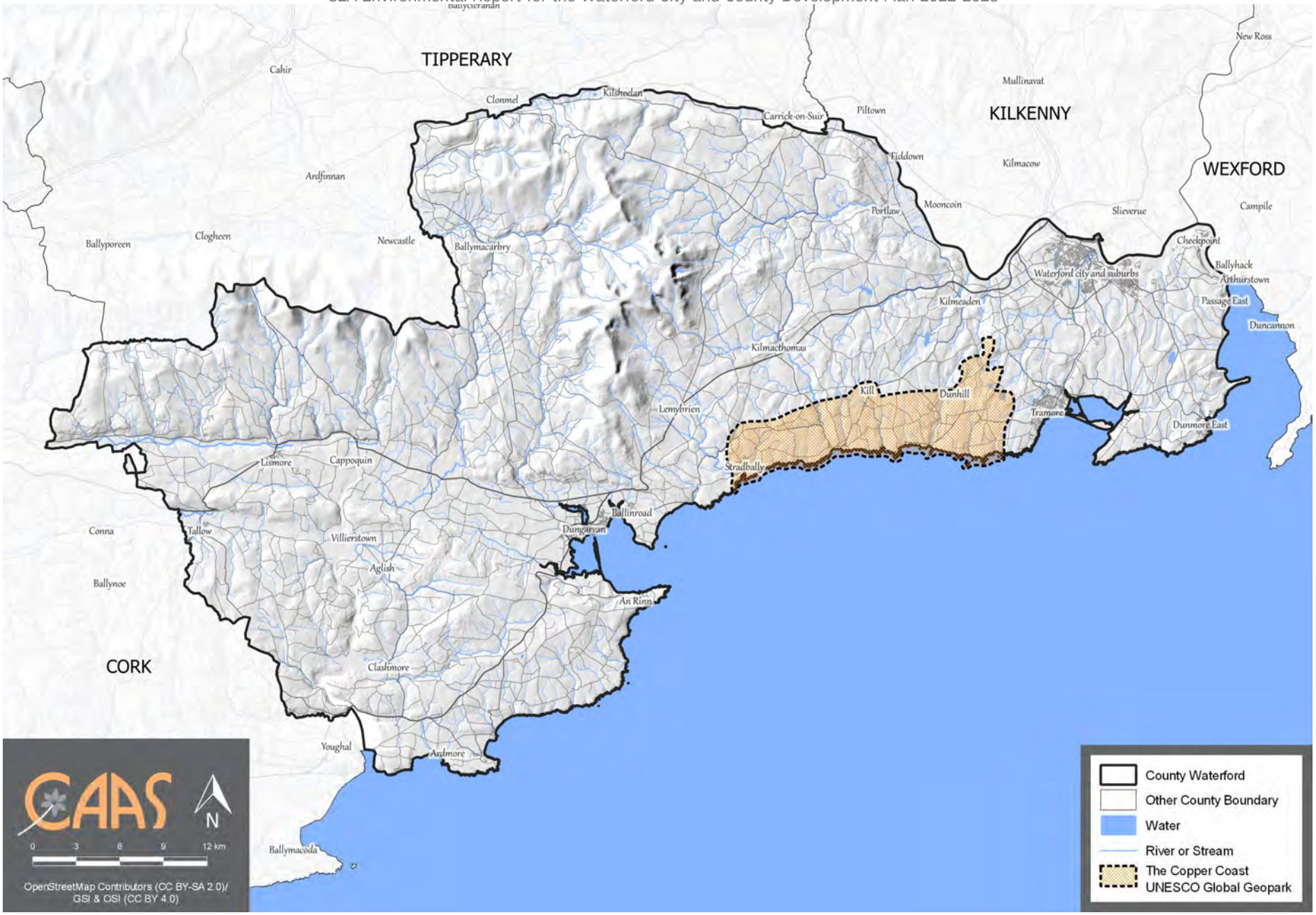


Figure 4.10 UNESCO Global Geopark

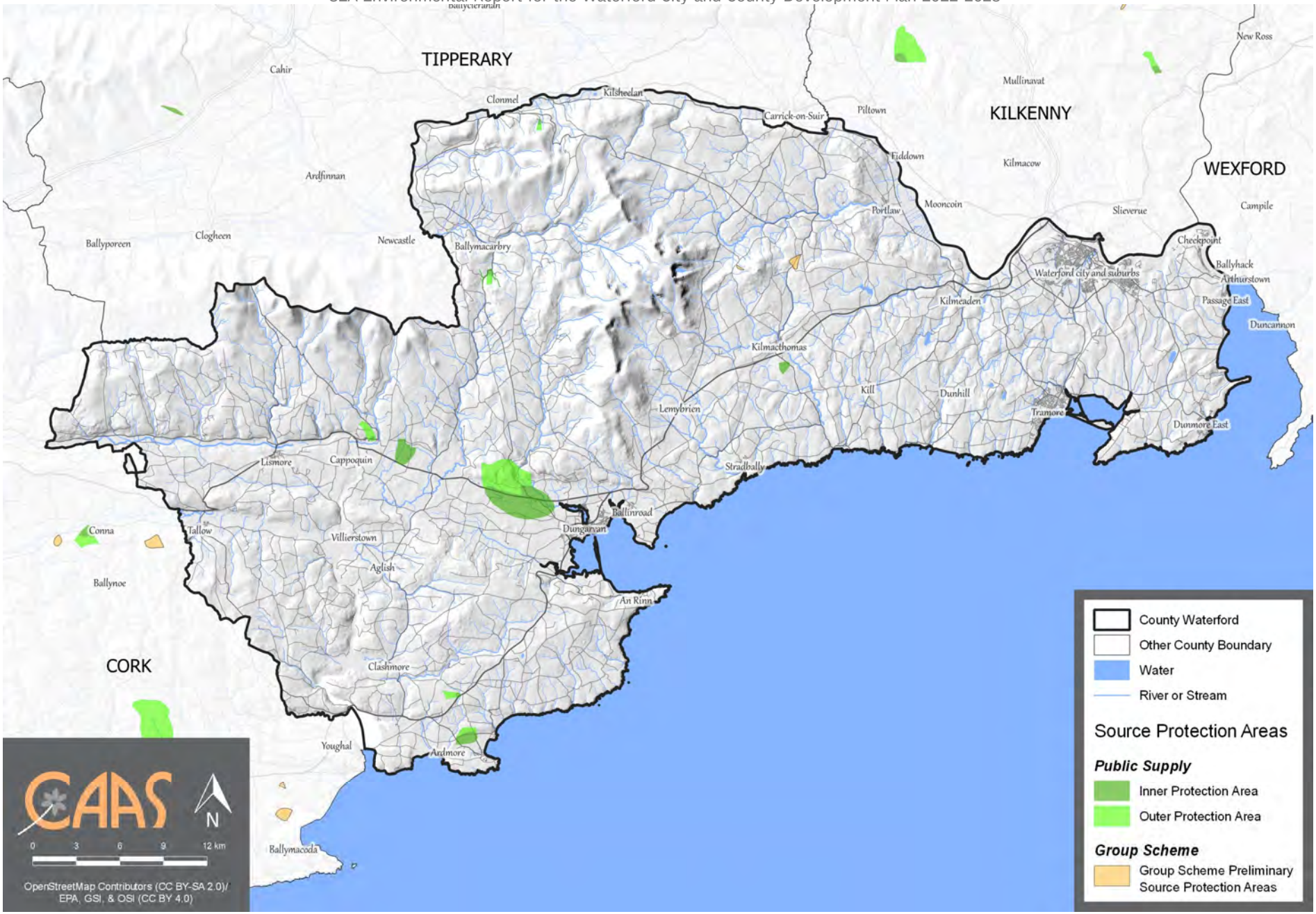


Figure 4.11 Source Protection Areas

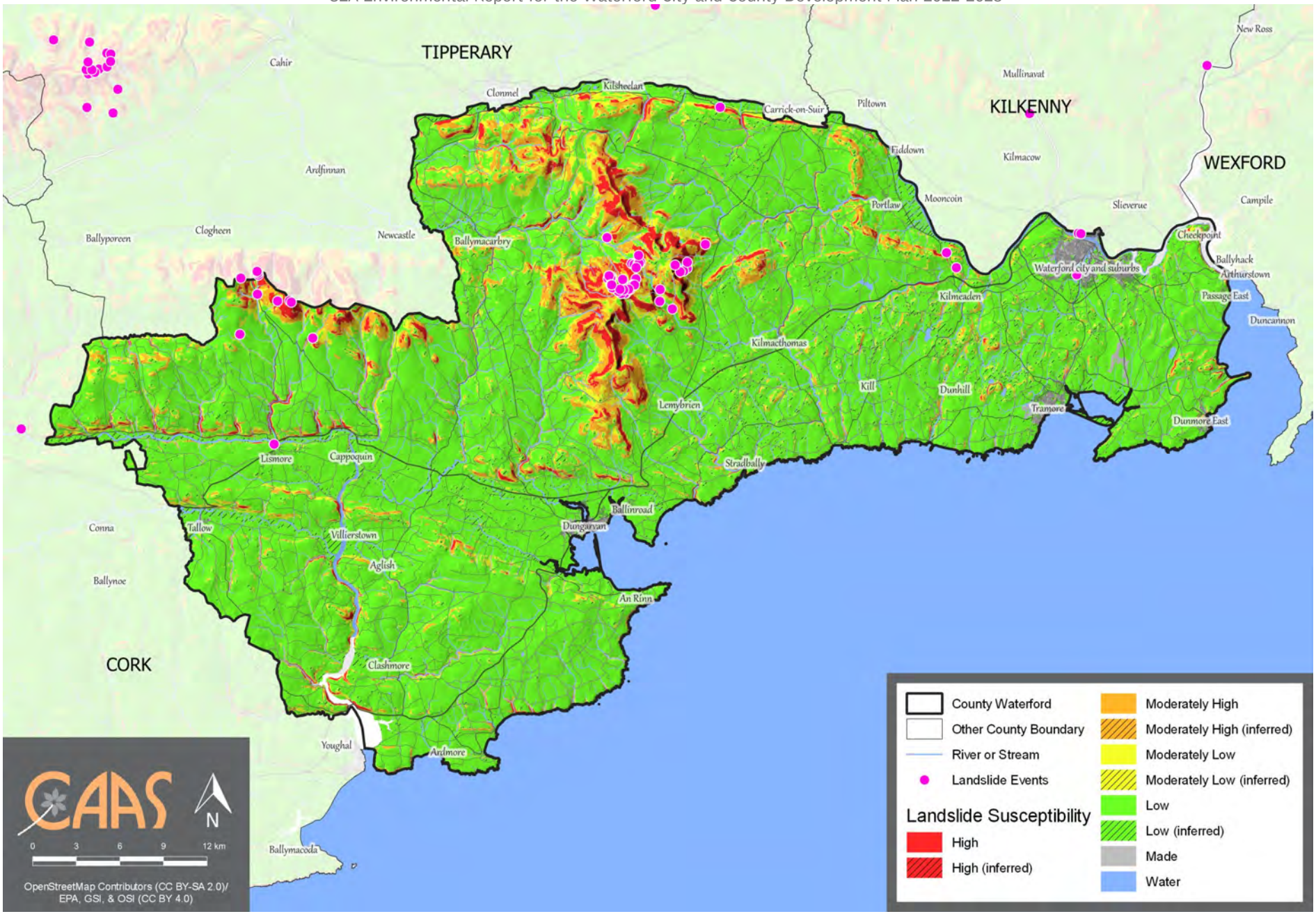


Figure 4.12 Landslide Susceptibility and Previous Landslide Events

4.9 Water

4.9.1 The Water Framework Directive

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.

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 River Basin Management Plan.

The EU's Common Implementation Strategy Guidance Documents No. 20 and 36 provide guidance on exemptions to the environmental objectives of the WFD.

For the purpose of assessment, reporting and management, water is divided into groundwater, rivers, lakes, estuarine waters and coastal waters that are in turn divided into specific, clearly defined water bodies.

4.9.2 Zone of Influence

The zone of influence of the Plan beyond the County boundary, with respect to impacts upon waters can be estimated to be all bodies of groundwater and all surface waters downstream areas of catchments which drain the County.

4.9.3 Surface Water Drainage

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.

Catchments draining the County include:

- Blackwater (Munster) - an area drained by the River Blackwater and all streams entering tidal water between East Point and Knockaverry, Youghal, County Cork;
- Colligan-Mahon - an area drained by the Rivers Colligan and Mahon and all streams entering tidal water between Cheekpoint and East Point, Country Waterford; and
- Suir - an area drained by the River Suir and all streams entering tidal water between Drumdowney and Cheekpoint, County Waterford.

The main rivers within the County include the Rivers Suir, Blackwater and Bride.

4.9.4 Surface Water Status

The WFD defines 'overall 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, in order 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 WFD surface water status (2013-2018), for rivers, lakes, transitional and coastal waters within and surrounding the County is shown on Figure 4.13 and on Table 4.1.

The WFD status of most of the rivers within the County is classified as *moderate*, *good* and *high*, however sections[44] of rivers (including: Suir; St. Johns; Leperstown Stream; and Brickey) are identified as *poor* due to unsatisfactory ecological/biological and/or physio-chemical status.

The WFD surface water status (2013-2018) of lakes within and surrounding the County is identified as *good* (including Carrigavantry) and *moderate* (including Knockaderry, Belle and Ballyshunnock).

The WFD surface water status (2013-2018) of transitional and coastal waterbodies within and surrounding the County is identified as *high* (including: Upper Blackwater Estuary; Tramore Back Strand; and Dungarvan Harbour), *good* (including Lower Suir Estuary, Little Island - Cheekpoint) and *moderate* (including: Barrow/ Suir/Nore Estuary; Lower Blackwater Estuary/ Youghal Harbour; Youghal Bay; and Waterford Harbour), however, some transitional waterbodies (including: Upper Suir Estuary; Middle Suir Estuary; and Colligan Estuary) are identified as *poor* due to unsatisfactory ecological/biological and/or physio-chemical status.

The WFD surface water status (2013-2018) of waterbodies (including rivers and transitional waterbodies) within Waterford City (mapped on Map 5 in Appendix III) ranges from *moderate* (including the Halfway House Stream) to *poor* (including St. John's River).

Significant pressures, those pressures which need to be addressed in order to improve water quality, have been identified[45] for waterbodies that are 'At Risk' of not meeting their water quality objectives under the WFD. Significant pressures for surface water bodies within or adjacent to County Waterford are identified on Table 4.1. There are various types of pressures identified, such as:

- **Agricultural pressures** - can include issues related to farming including loss of excess nutrients and sediment loss to surface waters from diffuse sources such as spreading of fertilisers and manures. Excess phosphorous and sediment are typically issues for rivers and lakes, and too much nitrogen is the main issue for estuaries and coastal waters.
- **Urban run-off pressures** - can include leaking sewers and run-off from paved and unpaved areas and misconnections where private foul connections are connected to storm sewers instead of the foul sewer network.
- **Urban wastewater pressures** - can include direct discharge of nutrients from urban wastewater treatment plants and discharge from combined storm overflows or storm water overflows. Discharges of elevated concentrations of phosphorus, ammonium and nitrogen impact on the ecology of surface waters.
- **Hydromorphological and anthropogenic pressures** are identified together in many instances. Hydromorphological pressures can include: modifications to the physical habitat conditions or the natural functioning of a waterbody which can impact on ecology, caused by dredging and straightening of rivers (channelisation), land drainage or hard infrastructure such as dams, weirs, culverts or other obstructions. Anthropogenic pressures can include: water abstractions; invasive species; agriculture; use of fertilizers, manures and pesticides; animal husbandry activities; inefficient irrigation practices; deforestation of woods; aquaculture; pollution due to industrial effluents and domestic sewage; and recreational activities.
- **Industrial pressures** - can include discharges and emissions from industrial and commercial facilities.
- **Extractive industry related pressures** – can include different activities that lead to the extraction of raw materials from the earth, such as oil, metals, mineral and aggregates. Impacts from extractive sites include sediment/siltation pollution and alteration to the physical environment.
- **Forestry pressures** - can include poorly managed and inappropriately sited forest operations, negatively impact on water quality and aquatic habitats and species. The most common water quality problems arising from forestry relate to the release of sediment and nutrients and the impacts from acidification. Forestry may also give rise to changes in stream flow regimes caused by associated land drainage.
- **Domestic wastewater pressures** – can include septic-tank systems associated with one-off housing and small unlicensed private urban waste-water treatment plants. If not correctly installed and well maintained, these systems can result in leakage of untreated effluent to waters.

[44] As per EPA classification system (gis.epa.ie/EPAMaps)

[45] EPA (2019) *Report on Water Quality in Ireland 2013-2018*

Table 4.1 WFD River, Lake, Transitional and Coastal Waterbodies Status[46]

Waterbody Name (EPA Identification Code)[47]	Waterbody Type	WFD Surface Waterbody Status (2013 -2018)[48]
Suir_220	**River**	**Poor** - due to poor ecological/biological status**.** No pressures identified.
St John's_020	**River**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from agricultural, urban run-off and urban wastewater sources.**
Leperstown Stream_010	**River**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from agricultural sources.**
Brickey_010	**River**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from agricultural and domestic wastewater sources.**
Upper Suir Estuary	**Transitional**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from agricultural sources.**
Middle Suir Estuary	**Transitional**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from agricultural sources.**
Colligan Estuary	**Transitional**	**Poor** - due to poor ecological/biological status. This waterbody is identified as being **under significant pressure from urban wastewater sources.**
Suir_210	**River**	**Moderate**. No pressures identified.
Suir_200	**River**	**Moderate**. No pressures identified.
Suir_190	**River**	**Moderate**. No pressures identified.
Owbeg (Waterford)_020	**River**	**Moderate**. This waterbody is identified as being **under pressure from hydromorphological/anthropogenic sources.**
Owbeg (Waterford)_010	**River**	**Moderate**. This waterbody is identified as being **under pressure from hydromorphological/anthropogenic sources.**
Nier_020	**River**	**Moderate**. This waterbody is identified as being **under pressure from forestry sources.**
Nier_010	**River**	**Moderate**. This waterbody is identified as being **under pressure from hydromorphological/anthropogenic sources.**
Mahon_020	**River**	**Moderate**. This waterbody is identified as being **under pressure from urban wastewater sources.**
Halfway House Stream_010	**River**	**Moderate**. This waterbody is identified as being **under pressure from urban run-off sources.**
Glenaboy_020	**River**	**Moderate**. This waterbody is identified as being **under pressure from urban run-off sources**.
Finisk_020	**River**	**Moderate.** No pressures identified.
Dunhill_010	**River**	**Moderate**. This waterbody is identified as being **under pressure from domestic wastewater sources.**
Colligan_020	**River**	**Moderate**. No pressures identified.
Clodiagh (Portlaw)_030	**River**	**Moderate.** No pressures identified.
Blackwater (Munster)_220	**River**	**Moderate**. This waterbody is identified as being **under pressure from extractive industry related sources.**
Ballyshunnock	**Lake**	**Moderate**. This waterbody is identified as being **under pressure from agricultural sources.**
Belle	**Lake**	**Moderate**. This waterbody is identified as being **under pressure from agricultural sources.**
Knockaderry	**Lake**	**Moderate**. This waterbody is identified as being **under pressure from agricultural sources.**
Lower Blackwater Estuary/Youghal Harbour	**Transitional**	**Moderate. This waterbody is identified as being under pressure from agricultural sources.**
Barrow Suir Nore Estuary	**Transitional**	**Moderate.** No pressures identified.

[46] Source: https://gis.epa.ie/EPAMaps/ and https://gis.epa.ie/EPAMaps/Water.
[47] The number at the end of each river water body name indicates where the waterbody is located along the main river channel. For example, the waterbody at the source is coded '_010', the next waterbody downstream is coded '_020' and the final waterbody before the river becomes transitional is '_180'.
[48] There is a data gap relating to WFD surface water status data. There are a number of waterbodies within the Plan area with overall status currently not assigned to them and the term "*unassigned status"* applies in respect of these waterbodies. These are not included on Table 4.1.

Waterbody Name (EPA Identification Code)[47]	Waterbody Type	WFD Surface Waterbody Status (2013 -2018)[48]
Waterford Harbour	**Coastal**	**Moderate**. This waterbody is identified as being **under pressure from hydromorphological/anthropogenic sources.**
Youghal Bay	**Coastal**	**Moderate. This waterbody is identified as being under pressure from agricultural sources.**
Tourig_020	**River**	**Good**. No pressures identified.
Tourig_010	**River**	**Good**. No pressures identified.
Tay_030	**River**	**Good**. No pressures identified.
Tay_010	**River**	**Good**. This waterbody is identified as being **under pressure from agricultural and forestry sources.**
Suir_180	**River**	**Good**. No pressures identified.
Suir_170	**River**	**Good**. No pressures identified.
Owennashad_030	**River**	**Good**. No pressures identified.
Owennashad_020	**River**	**Good**. This waterbody is identified as **being under pressure from hydromorphological/anthropogenic sources.**
Owennashad_010	**River**	**Good**. No pressures identified.
Nier_030	**River**	**Good**. No pressures identified.
Morragen_010	**River**	**Good**. No pressures identified.
Mahon_040	**River**	**Good**. No pressures identified.
Licky_030	**River**	**Good**. No pressures identified.
Licky_020	**River**	**Good**. No pressures identified
Licky_010	**River**	**Good**. This waterbody is identified as being **under pressure from forestry sources.**
Goish_020	**River**	**Good**. This waterbody is identified as **being under pressure from agricultural sources.**
Goish_010	**River**	**Good**. This waterbody is identified as being **under pressure from forestry sources.**
Glennafallia_020	**River**	**Good.** No pressures identified.
Glennafallia_010	**River**	**Good.** This waterbody is identified as being **under pressure from forestry sources.**
Glendine (Blackwater)_010	**River**	**Good.** No pressures identified.
Glenaboy_010	**River**	**Good.** No pressures identified.
Finisk_030	**River**	**Good.** No pressures identified.
Finisk_010	**River**	**Good.** No pressures identified.
Colligan_040	**River**	**Good.** This waterbody is identified as **being under pressure from hydromorphological/anthropogenic sources.**
Colligan_010	**River**	**Good.** No pressures identified.
Clodiagh (Portlaw)_050	**River**	**Good.** No pressures identified.
Clodiagh (Portlaw)_040	**River**	**Good.** No pressures identified.
Clodiagh (Portlaw)_020	**River**	**Good.** No pressures identified**.**
Bride (Blackwater)_070	**River**	**Good.** No pressures identified.
Blackwater (Munster)_210	**River**	**Good.** No pressures identified.
Araglin (Blackwater)_030	**River**	**Good.** No pressures identified.
Araglin (Blackwater)_020	**River**	**Good.** No pressures identified.
Araglin (Blackwater)_010	**River**	**Good.** No pressures identified.
Carrigavantry	**Lake**	**Good.** This waterbody is identified as **being under pressure from forestry sources.**
Lower Suir Estuary (Little Island - Cheekpoint)	**Transitional**	**Good**. This waterbody is identified as **being under pressure from agricultural sources.**
Tay_020	**River**	**High.** No pressures identified.
Monavugga_010	**River**	**High.** No pressures identified.
Mahon_010	**River**	**High.** No pressures identified.
Glenshelane_010	**River**	**High.** No pressures identified.
Glenakeefe_020	**River**	**High.** No pressures identified.
Glenakeefe_010	**River**	**High.** No pressures identified.
Glasha (Waterford)_010	**River**	**High.** No pressures identified.
Farnane_010	**River**	**High.** No pressures identified.
Dalligan_010	**River**	**High.** No pressures identified.
Clodiagh (Portlaw)_010	**River**	This waterbody is identified as being **under pressure from agricultural and forestry sources.**
Araglin (Colligan)_010	**River**	**High.** No pressures identified.
Upper Blackwater M Estuary	**Transitional**	**High.** This waterbody is identified as **being under pressure from hydromorphological/anthropogenic sources.**
Dungarvan Harbour	**Coastal**	**High.** No pressures identified.
Tramore Back Strand	**Coastal**	**High.** This waterbody is identified as **being under pressure from hydromorphological/anthropogenic sources.**

4.9.5 Ground Water

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.

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

The WFD status (2013-2018) of groundwater underlying the entire County (mapped on Figure 4.14) is mostly identified as being of *good* status, with areas of *poor* status to north-west of Dungarvan[49] and in parts of the south of Waterford City[50] (WFD groundwater status underlying Waterford City is also mapped on Map 6 in Appendix III).

4.9.6 Aquifer Vulnerability and Productivity

The Geological Survey of Ireland (GSI) rates groundwaters according to both their productivity and vulnerability to pollution.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter into groundwater. The vulnerability of aquifers underlying the County are mapped on Figure 4.15 (and on Map 7 in Appendix III for Waterford City) and generally classified as being of:

- *High and moderate*, throughout most of the County;
- *Low vulnerability,* in small areas throughout the County; and
- *Extreme vulnerability* and *extreme (rock at or near surface or karst)* including in the central and upland areas.

The GSI also rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. This is referred to as aquifer productivity and is mapped on Figure 4.16 (including Waterford City). Productivity is generally classified as being:

- *Locally important aquifer bedrock which is moderately productive only in local zones*;
- *Regionally important aquifer fissured bedrock;*
- *Regionally important aquifer karstified (diffuse);*
- *Locally important aquifer karstified;*
- *Locally important aquifer bedrock which is generally moderately productive;* and
- *Poor aquifer bedrock which is generally unproductive except for local zones*.

4.9.7 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 within and adjacent to the County include:

- Nutrient Sensitive Areas – the rivers Blackwater and Suir, Blackwater Estuary Lower and Middle Suir Estuary are identified as Nutrient Sensitive Areas, as shown on Figure 4.17;
- Surface Water and Groundwater[51] in Nutrient Sensitive Areas[52], as shown on Figure 4.17;

[49] Underlying a Waste Facility (W0032-02).
[50] Underlying a Waste Facility (W0018-01) and Industrial Facility (P0157-02).
[51] Groundwater bodies that intersect with areas designated as sensitive.
[52] Areas designated as sensitive under the Urban Wastewater Treatment Directive (91/271/EEC) and and transposing Regulations.

- Drinking Water Surface Water Bodies[53] (shown on Figure 4.18). Groundwater beneath the entire County is also included; and
- Bathing Water Areas[54] including surface waters and groundwater in bathing areas (shown on Figure 4.19 and Map 9 in Appendix III).

The Middle Suir Estuary flowing through the north of the Waterford City is included on the RPA for Nutrient Sensitive Areas as an Urban Wastewater Treatment Directive Sensitive Area (shown on Map 8 in Appendix III).

RPAs relating to Salmonid Regulations and Shellfish Areas are addressed under Section 4.6 "Biodiversity and Flora and Fauna".

There are also a number of water dependent habitats in the County which have been listed on RPAs – these relate to designated SACs and SPAs (see Section 4.6.3).

4.9.8 Bathing Waters

Bathing locations identified as 'Bathing Waters' under the Bathing Water Regulations 2008, as amended, are mapped on Figure 4.19.

For bathing waters, "Mandatory and Guide Values" are set out for bathing waters in the 2006 EU Bathing Water Directive and transposing Regulations. Mandatory Values are values that must be observed if the bathing area is to be deemed compliant with the Directive. Compliance with Guide Values exceeds guidance with Mandatory Values and can be regarded as quality objectives which bathing sites should endeavour to achieve.

Bathing waters are now classified into four quality categories; *'excellent'*, *'good'*, *'sufficient'*, or *'poor'* with a minimum target of *'sufficient'* required to be achieved for all bathing waters.

The most recent available data from the EPA for 2019[55] shows that locations of designated bathing waters along the County's coastline are either classified as *excellent*[56] (at: Counsellors' Strand; Dunmore East; Dunmore Strand; Tramore Beach; Clonea Beach; and Ardmore Beach) or *good*[57] (at Bunmahon Beach).

The Blue Flag award is given to beaches and marinas that have excellent water quality and maintain other standards including effective and appropriate management to ensure the protection of the natural environment and safety standards. Bathing locations at Councillors Strand Dunmore East, Dunmore Strand, Tramore and Clonea were awarded with the Blue Flag in 2020.

4.9.9 Flooding

Certain areas across the County are at risk of flooding from sources including groundwater, pluvial[58], fluvial[59] and coastal[60]. There is historic evidence of flooding in various locations across the County, including: along Rivers Blackwater, Colligan, Tay, Mahon and Suir and at various locations along the coastline.

Locations within and adjacent to the County that were identified by the Office of Public Works (OPW) in 2012 as requiring detailed assessment of flood risk (Areas for Further Assessment) include: Ballyduff, Dungarvan and Environs, Dunmore East, Portlaw, Ringphuca, Tallow, Tramore and Environs and Waterford. Detailed predictive flood risk mapping is now available for these areas.

A Strategic Flood Risk Assessment (SFRA), as required by 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009), has been undertaken alongside the preparation of the SEA and the preparation of the Plan. This assessment considers available and emerging information on historical and predictive flood risk indicators. Indicative Flood Zones mapping for the County is shown on Figure 4.20[61] (and for Waterford City on Map 11 in Appendix III), indicating areas likely to be at most risk of flooding.

[53] Various water bodies are used for drinking water abstraction in accordance with European Communities (Drinking Water) (No. 2) Regulations 2007 (SI No. 278/2007).
[54] Bathing Waters are designated under the Bathing Water Quality Regulations 2008 S.I. No. 79 of 2008, as amended.
[55] EPA Report (2020) on *Bathing Water Quality in Ireland for the year 2019*
[56] The highest, cleanest class
[57] The second highest, second cleanest class
[58] Resulting from high intensity rainfall events where run-off volume exceeds capacity of surface water network.
[59] Watercourse capacity is exceeded or the channel is blocked and excess water spills from the channel onto adjacent floodplains.
[60] Resulting from higher sea levels than normal causing the sea to overflow onto land. Such flooding is influenced by high tide level, storm surges and wave action.
[61] This mapping shows the likelihood of flooding from a number of sources, defined as the percentage probability of a flood occurring in any given year. For example, a 1% Annual Exceedance Probability (AEP) indicates the severity of a flood that is expected to be exceeded on average once in 100 years, i.e. it has a 1 in 100 (1%) chance of occurring in any one year.

4.9.10 Existing Problems

Subject to exemptions provided for by Article 4 of the WFD, based on available water data, certain surface and groundwater bodies will need improvement in order to comply with the objectives of the WFD.

The Plan includes provisions that will contribute towards improvements in the status of waters.

There is historic and predictive evidence of elevated levels of flood risk from fluvial and coastal sources at various locations across the County.

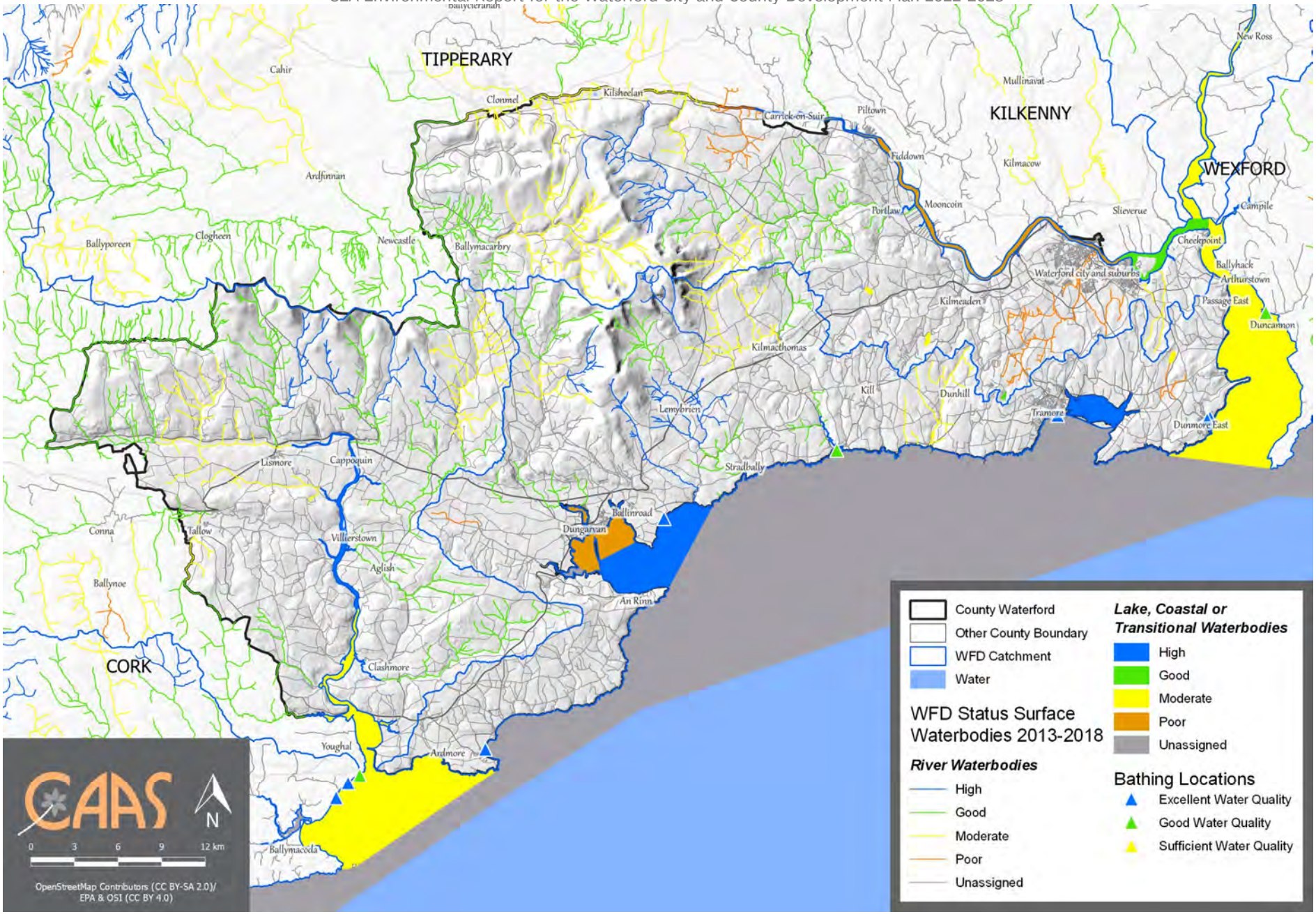


Figure 4.13 WFD Surface Water Status (2013-2018)

Figure 4.14 WFD Groundwater Status (2013-2018)

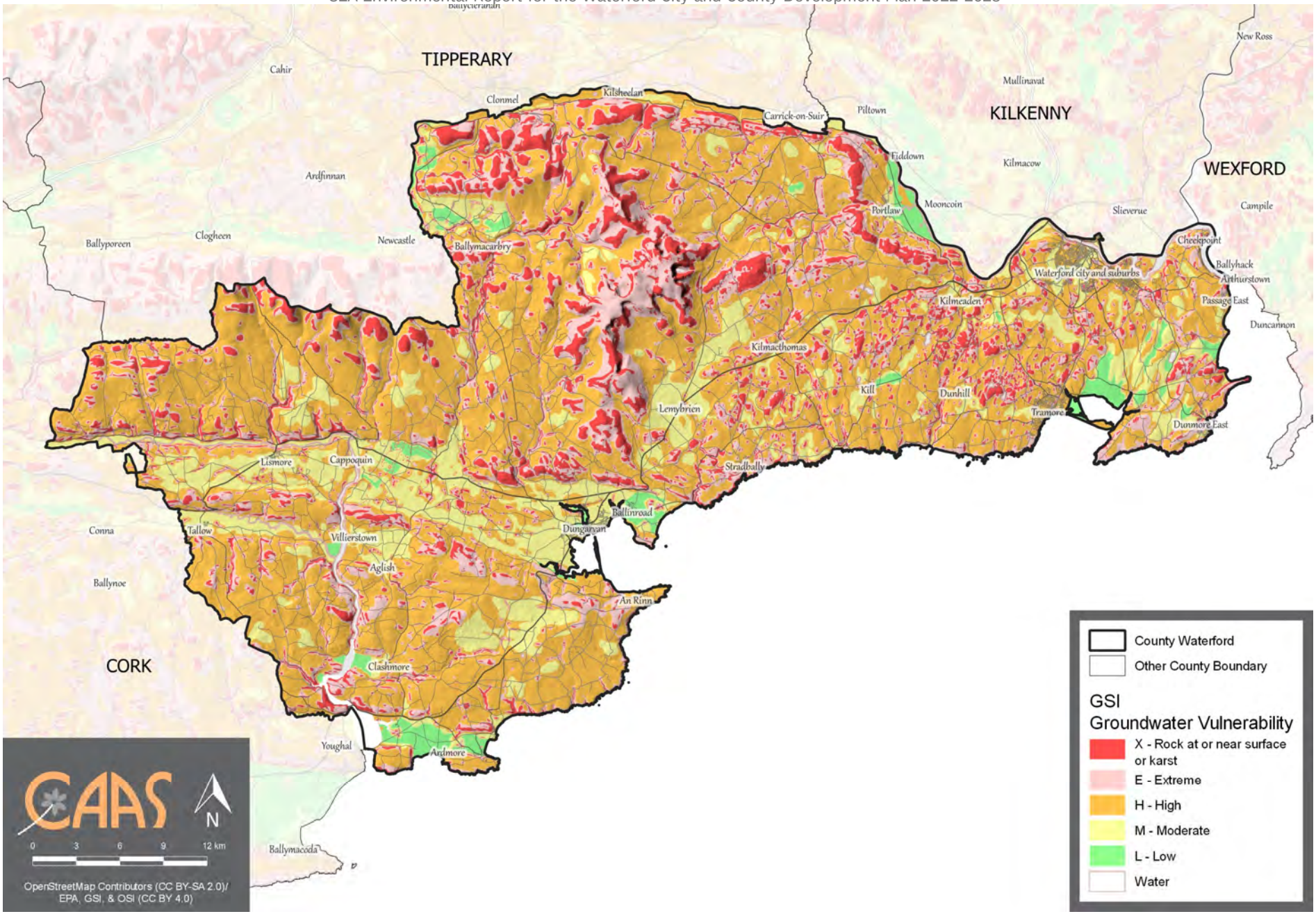


Figure 4.15 Groundwater Vulnerability

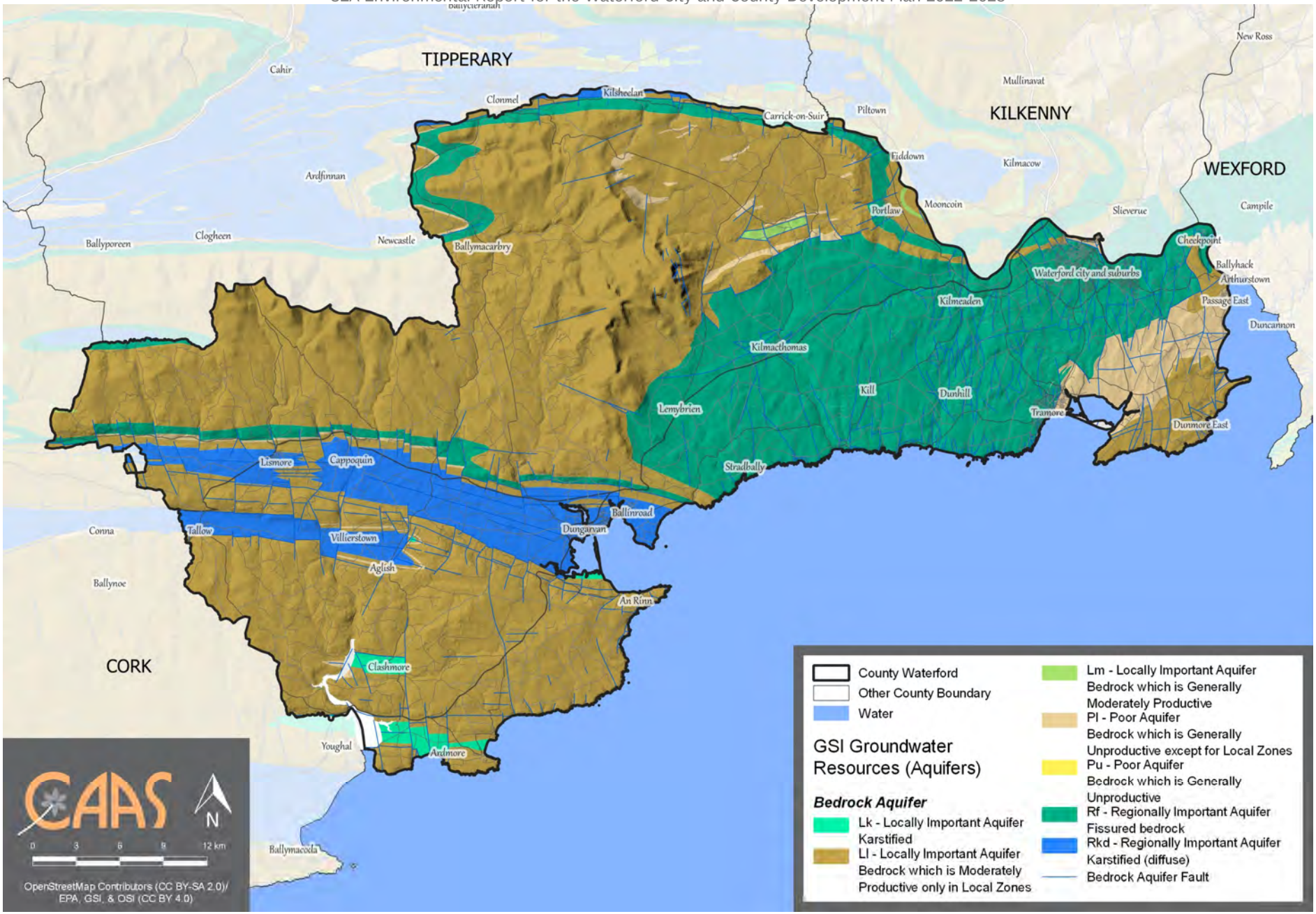


Figure 4.16 Groundwater Productivity

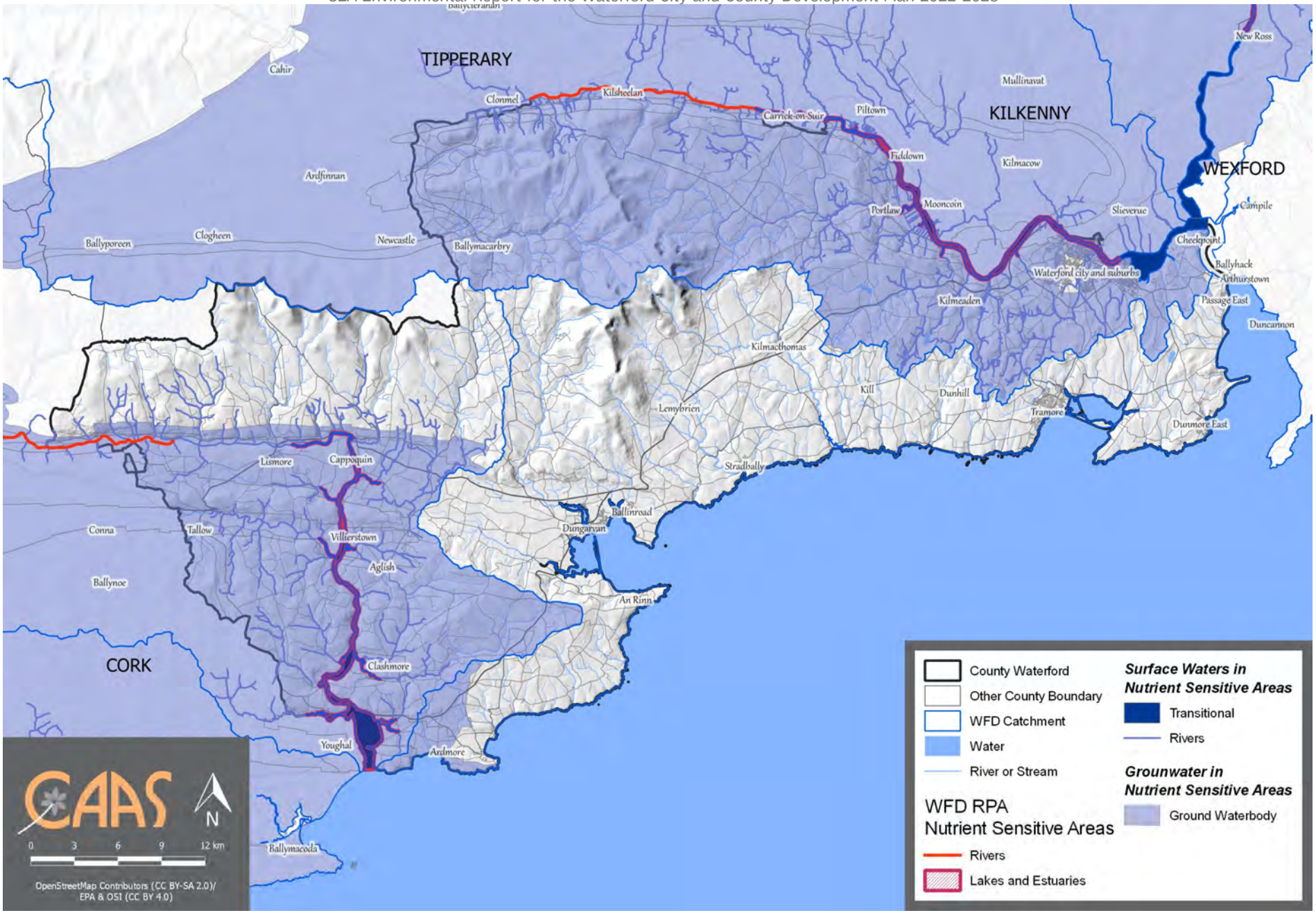


Figure 4.17 WFD Register of Protected Areas: Nutrient Sensitive Areas

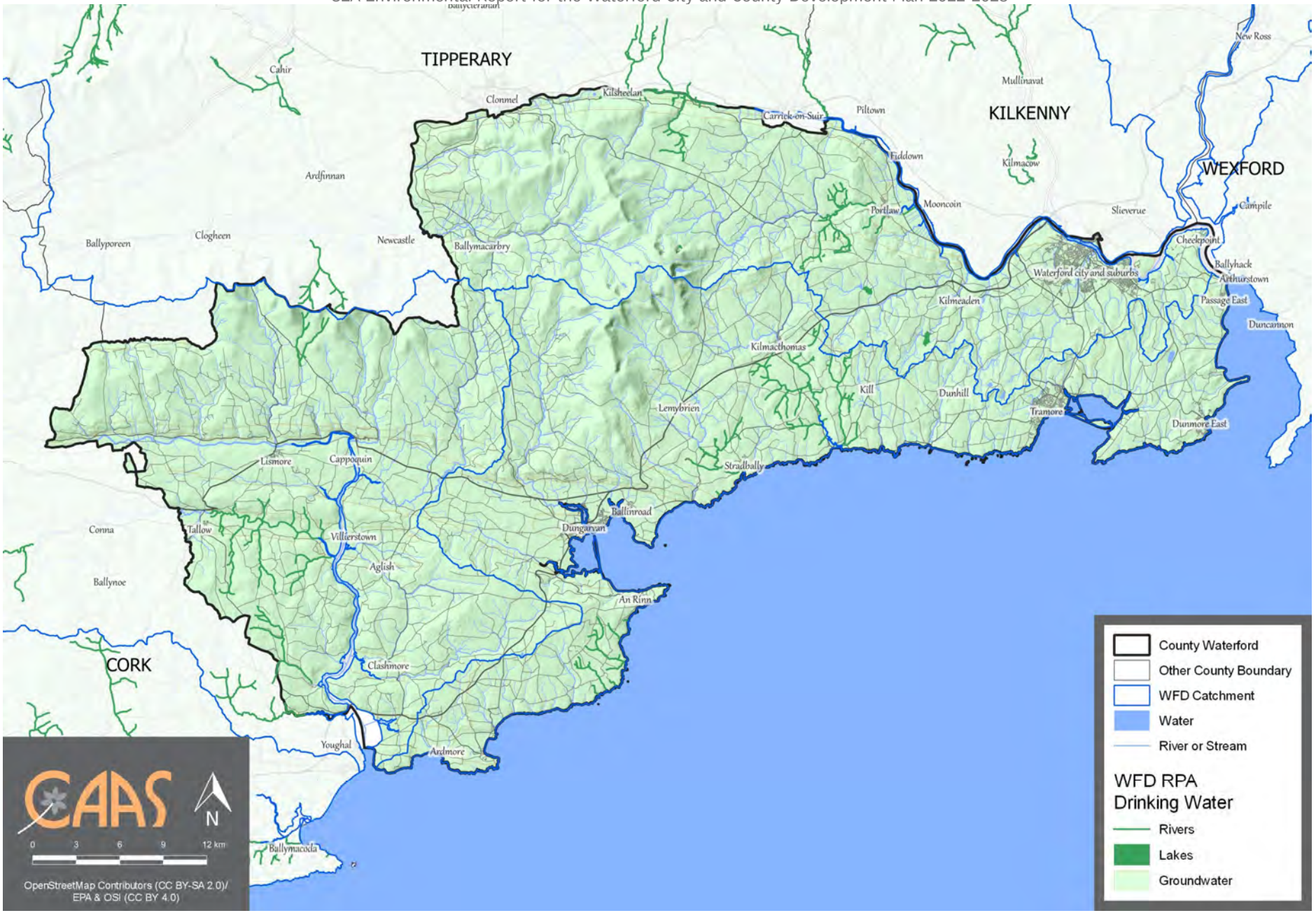


Figure 4.18 WFD Register of Protected Areas: Drinking Water

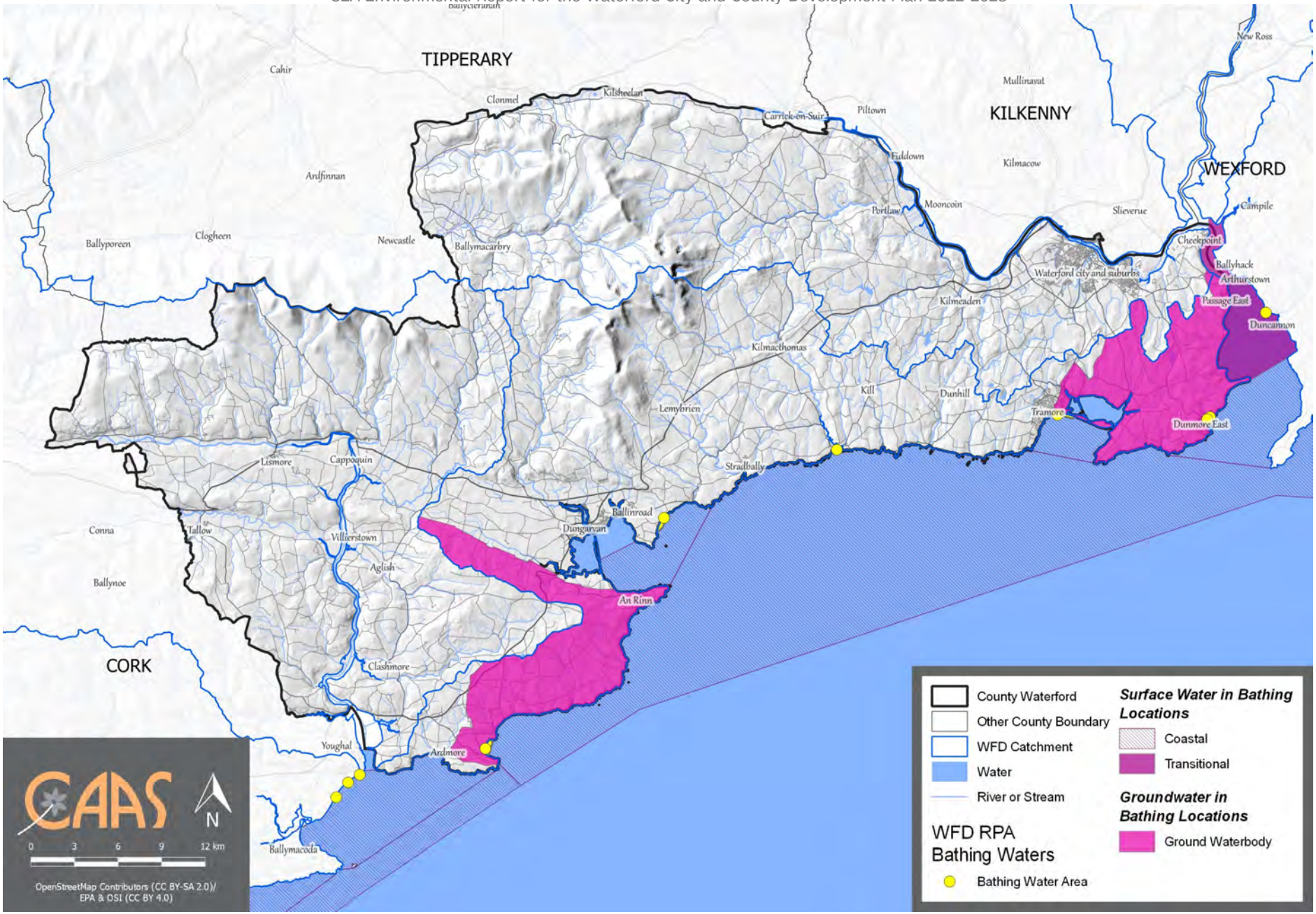


Figure 4.19 WFD Register of Protected Areas: Bathing Waters

Figure 4.20 Indicative Flood Zones from the SFRA

4.10 Air and Climatic Factors

4.10.1 Introduction

Total emissions of greenhouse gases by humans come from various sectors including transport, agriculture, energy industries, manufacturing combustion, industrial processes, residential developments, commercial services developments, waste management processes and fluorinated gases equipment (such as refrigeration and fire protection systems).

Ireland's Provisional Greenhouse Gas Emissions 1990-2017 (EPA, 2018) details provisional estimates of greenhouse gas emissions for the period 1990-2017. For 2017, total national greenhouse gas emissions are estimated to be 60.75 million tonnes carbon dioxide equivalent (Mt CO_2eq). This is 0.9% lower (0.53 Mt CO_2eq) than emissions in 2016.

Ireland's Final Greenhouse Gas Emissions 1990-2017 (EPA, 2019) identifies that:

- For 2017, the total national GHG emissions are estimated to be 60.74 million tonnes carbon dioxide equivalent (Mt CO_2eq), 0.9% lower than 2016.
- In the last 3 years, national total emissions have increased by 6.4%. In the same period, emissions in the ETS[62] sector have increased by 5.9%.
- Agriculture emissions increased by 2.9% in 2017 (driven by higher dairy cow numbers and increases in milk production).
- GHG emissions from the Transport sector decreased by 2.4% in 2017. This is the first year of decreased emissions after four successive years of increases in transport emissions.
- Agriculture and Transport accounted for 73.5% of total ESD emissions in 2017.
- Emissions in the Energy Industries sector show a decrease of 6.9% which is attributable to a 5.9% decrease in fossil fuel consumption and an increase of 21.1% and 1.6% in electricity generated from wind and hydro, respectively, in 2017. Renewables now account for 30.1% of electricity generated in 2017, an increase of 3.3% from 2016 figures. Ireland continued to be a net exporter of electricity in 2017. However, exported electricity saw a 4.7% reduction in 2017 to previous 2016 figures.
- Emissions from the Manufacturing Combustion[63] sector increased by 3.1% in 2017.
- The Industrial Processes sector emissions increased by 4.1%, mainly from increased cement production. Cement process emissions increased by 2.6% in 2017.
- GHG emissions from the Residential sector decreased by 5.0%. This can be attributed to a milder winter.
- Emissions from the Waste sector decreased by 2.5% in 2017.

The EPA 2019 publication *Ireland's Greenhouse Gas Emission Projections 2018-2040* provides an assessment of Ireland's total projected greenhouse gas emissions out to 2040 which includes an assessment of progress towards achieving its emission reduction targets out to 2020 and 2030 set under the EU Effort Sharing Decision and Effort Sharing Regulation (Regulation (EU) 2018/842). Ireland's 2020 target is to achieve a 20% reduction of non-Emission Trading Scheme (non-ETS) sector emissions (i.e. agriculture, transport, the built environment, waste and non-energy intensive industry) on 2005 levels with annual limits set for each year over the period 2013-2020. Ireland's 2030 target under the Effort Sharing Regulation is a 30% reduction of emissions compared to 2005 levels by 2030. There will be binding annual limits over the 2021-2030 period to meet that target. Key insights identified as part of the report's package of documents are that:

- There is a long-term projected decrease in greenhouse gas emissions as a result of inclusion of new climate mitigation policies and measures that formed part of the 2018-2027 National Development Plan (updated in 2021). This is evident in the With Additional Measures scenario which assumes full implementation of the programmes, policies and measures included in the 2018 National Development Plan.
- Fossil fuels such as coal, peat and gas continue to be key contributors to emissions from the power generation sector. However, a significant reduction in emissions over the longer term is projected as a result of the expansion of renewables (e.g. wind), assumed to reach 41-54% by 2030, with a move away from coal and peat.
- A growth in emissions from the transport sector continues to be projected which is largely attributed to fuel consumption from diesel cars and diesel freight. A decrease in emissions over the longer term, most notably in the With Additional Measures scenario, is largely attributed to assumed accelerated deployment of 500,000 electric vehicles and the impact of greater biofuel uptake.
  Agriculture emissions are projected to continue to grow steadily over the period which is mainly

[62] The EU emissions trading system (EU ETS) was launched in 2005 as the world's first international company-level 'cap-and trade' system for reducing emissions of greenhouse gases cost-effectively. The cap makes sure that CO_2 becomes a product and, thus, CO_2 is valued at a price, which is determined by the supply and demand at the (trading) market.

[63] Manufacturing Combustion; includes combustion of fuels in Industry and Construction, both in ETS and non-ETS

a result of an increase in animal numbers particularly for the dairy herd.
- The implementation of additional energy efficiency measures included in the 2018 National Development Plan will see a significant reduction in emissions in the residential, commercial/public services and manufacturing sectors over the projected period.

4.10.2 Climate Action

The National Climate Action Plan 2021 is an all of Government plan to tackle climate change and bring about a step change in Ireland's climate ambition over the coming years. The Action Plan sets out an ambitious course of action over the coming years to address the diverse and wide-ranging impacts climate disruption is having on Ireland's environment, society, economic and natural resources. The Climate Action Plan sets out clear 2030 targets for each sector with the ultimate objective of achieving a transition to a competitive, low-carbon, climate-resilient, and environmentally sustainable society and economy by 2050. The Action Plan deals with both mitigation and adaptation.

Climate mitigation describes action to reduce the likelihood of climate change occurring or reduce the impact if it does occur. This can include reducing the causes of climate change (e.g. emissions of greenhouse gases) as well as reducing future risks associated with climate change.

The use of alternative fuels, including electricity, forms a significant part of government policy to reduce emissions, including from transport. Greater use of alternative fuels, including renewable energy, has the potential to further contribute towards energy security.

The 2019 emission projections do not consider the impact of new policies and measures that are included in the Action Plan. It is anticipated that future emission projections will include the additional impact of the Government Climate Plan.

The Climate Change Advisory Council's Annual Review 2020 identifies that the most recent projections demonstrate that, under different assumptions, Ireland will not meet its emissions reduction targets, even with the additional policies and measures included in the National Development Plan. The projections also show that progress on reducing emissions is sensitive to the future path of fuel prices. A significant and sustained rate of emissions reduction of approximately -2.5% per year is required to meet our objectives for 2050. However, it must be noted that additional measures within the recent Climate Action Plan are not included in the analysis to date.

Climate adaptation is a change in natural or human systems in response to the impacts of climate change. These changes moderate harm or exploit beneficial opportunities and can be in response to actual or expected impacts.

The National Adaptation Framework Department of Communications, Climate Action and Environment, 2018), sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The National Adaptation Framework outlines a whole of government and society approach to climate adaptation. Under the Framework, a number of Government Departments will be required to prepare sectoral adaptation plans in relation to a priority area that they are responsible for.

The Waterford City and County Council Climate Change Adaptation Strategy 2019-2024 features a range of actions across sectors including: Energy and Buildings; Flood Relief and Resilience; Transport; Resource Management; Coastal Protection and Nature-based Solutions; and Communities. The Strategy seeks to:

- Ensuring the effective and efficient delivery of functions and services under changing climatic conditions to reduce risk and increase resilience.
- Integrating climate change and adaptation considerations into policies and decision-making processes.
- Responding effectively to emergency situations to extreme weather events.
- Managing climate change risks to public assets owned or managed by WCCC (on behalf of or in partnership with other bodies/agencies).
- Translating and implementing national adaptation polices and cross-sectoral adaptation initiatives at a local level e.g. CFRAM mapping.
- Ensuring access to up to date and relevant climate change data and information to maintain an understanding of risks/vulnerabilities that the changing climate presents to local communities, local economic development, the natural environment and opportunities arising to support adaptation actions.
- Working with communities and local organisations to build resilience and adaptive capacity.
- Collaborating through partnerships with other agencies to achieve effective climate adaptation for Waterford.

4.10.3 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).

In order to comply with the directives mentioned above, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002).

The EPA's (2020) *Air Quality in Ireland 2019* identifies that:

- Air quality in Ireland is generally good however there are localised issues;
- Nitrogen dioxide (NO_2) from transport emissions is polluting urban areas; and
- Ireland was above World Health Organization air quality guideline value levels at 33 monitoring sites – mostly due to the burning of solid fuel within settlements across the country.

Problem pollutants identified by the EPA include particulate matter from burning of solid fuel and nitrogen dioxide from transport emissions in urban areas. Indications that Ireland will exceed EU limit values for nitrogen dioxide in the near future.

With regards to solutions, the report identifies that:

- To tackle the problem of particulate matter, clean ways of heating homes and improve energy efficiency of homes can be progressed; and
- To reduce the impact of nitrogen dioxide, transport options in the Government's Climate Action Plan can be implemented and transport choices can be considered by individuals.

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. The current[64] air quality within the City and County is identified by the EPA as being *good*.

4.10.4 Noise

Waterford City and County Council has prepared a Noise Action Plan 2019-2023 in accordance with the requirements of the Environmental Noise Regulations 2006. The purpose of the Noise Action Plan is to avoid, prevent and reduce, on a prioritised basis the harmful effects, including annoyance due to the long-term exposure to environmental noise.

4.10.5 Existing Problems

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

4.11 Material Assets

Other material assets, in addition to those detailed below, covered by the SEA include archaeological and architectural heritage (see Section 4.12) natural resources of economic value, such as water and air (see Sections 4.9 and 4.10).

4.11.1 Public Assets and Infrastructure

Public assets and infrastructure that have the potential to be impacted upon by the Plan, if unmitigated, include; settlements; resources such as public open spaces, parks and recreational areas; public buildings and services; transport and utility infrastructure (electricity, gas, telecommunications, water supply, wastewater infrastructure etc.); forestry; and natural resources that are covered under other topics such as water and soil.

4.11.2 Green Infrastructure

Parks and open space promote health and well-being, provide recreational facilities and range of habitats for various species. Green

[64] 07/04/2021 (http://www.epa.ie/air/quality/)

infrastructure is also a crucial component in building resilient communities capable of adapting to the consequences of climate change with trees, woodlands and wetlands providing carbon capture and slowing water flows while improving air quality.

4.11.3 Land

The Plan seeks to assist with the reuse and regeneration of brownfield sites thereby contributing towards sustainable mobility and reducing the need to develop greenfield lands and associated potential adverse environmental effects. Brownfield lands are generally located within urban/suburban areas.

4.11.4 Forestry

Approximately 22% of County Waterford is covered by coniferous forest plantations. The largest areas of forestry are found in the central and western parts of the County, as indicated on Figure 4.3. Coillte[65] manage 15% of the County's forests, while the remainder is in private ownership[66]. Coillte manage 5 forest amenity areas in the County, including Colligan, Dromana, Faithlegg, Glenshelane and Kilclooney. Woodlands provide recreational opportunities in addition to their heritage and economic benefits. They are a valuable resource in terms of biodiversity, recreation and tourism, and also important as links in the county's green infrastructure network.

4.11.5 Peatlands

Peatlands provide a valuable natural and archaeological resource. Peatlands are also important controllers of water levels in river catchments, providing a source of water in dry conditions and soaking up excess water during wetter periods; they actively capture and hold carbon and are an important natural resource in combatting climate change. Cutaway bogs have the potential to facilitate land uses such as employment, renewable energy generation, waste management, industrial, and tourism and recreation. Peat soils are often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues; various peatland areas are subject to ecological designations (see Section 4.6).

4.11.6 Coastline

Management of the County's coastline and coastal erosion are topics with relevance to various environmental components. Many of the County's settlements have developed along or near the coast. The coastline of County Waterford is amongst the most sensitive and valuable resources in the County, in terms of natural and cultural heritage, scenic beauty and recreation. The coast (including harbours and piers) is also an important economic resource particularly for commercial fishing, fish processing, aquaculture, leisure and tourism industries in the County. Waterford airport and port also play a vital role providing the region with international connectivity.

4.11.7 Renewable Energy Potential

Under EU Directive 2001/77/EC Renewable Energy, renewable energy sources are defined as renewable non-fossil energy sources such as, but not limited to wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas, bio-gases and bio-char (i.e. the thermal treatment of natural organic materials in an oxygen-limited environment). There is potential for renewable energy development in the County and the Plan seeks to facilitate such development in a sustainable manner.

4.11.8 Minerals and Aggregates

Minerals such as iron and copper and aggregates such as sand and gravel can occur throughout the country. Minerals and aggregates are essential to manufacturing and construction.

Minerals localities within Waterford are shown on Figure 4.21. The GSI have a suite of data sources available that would be useful in planning and assessing individual projects with regard to the environmental topic(s) of soil and/or material assets. These include:

- Aggregate Potential Mapping;
- Bedrock mapping;
- Quaternary and Physiographic mapping; and
- National Aquifer and Recharge mapping.

[65] Coillte Teoranta, the State Forestry Board, was established to manage the public forest built up since the commencement of State planting and is the largest provider of forest recreation in Ireland.

[66] Waterford City and County Development Plan 2022-2028.

4.11.9 Transport

Transport infrastructure in the County has the potential to support reductions in energy demand from the transport sector, including through electrification of modes.

The County is well served by public transport and road links. The N24, N25 and N72 traverse the County. Irish Rail operate services on the Kildare/Waterford service which is on the network of InterCity routes connected to the Dublin/ Cork Main Line. In addition, Bus Éireann and other private operators, including long distance couch services and local link bus services, operate on number of routes several times daily.

Waterford Metropolitan Area Transport Strategy, Waterford Planning and Land-use Transportation Study and Local Transport Plans provides an overview and examination of existing transport networks and services within the County and identifies key opportunities and challenges which will arise with regards to transport provision within the period of the County Development Plan and beyond.

4.11.10 Water Services

4.11.10.1 Wastewater

From January 2014, Irish Water became responsible for all public water services, involving the supply of drinking water and the collection, treatment and disposal of wastewater. Irish Water is also responsible for the treatment and disposal of the sludge that is generated from both its water and wastewater treatment plants. The Council is an agent of Irish Water for operations and remains the designated Water Authority for the assessment and approval of on-site wastewater treatment systems and is responsible for surface water drainage in the County.

The provision of well-maintained quality wastewater treatment infrastructure is essential to facilitate sustainable development of the County in line with the Settlement and Core Strategy while also protecting the environment and public health. Irish Water is now responsible for the collection, treatment and disposal of wastewater where public wastewater facilities exist in towns and villages. In unserviced areas and outside the main towns and villages, the main method of sewage disposal is by means of individual septic tanks and proprietary wastewater treatment systems.

The EPA's 2020 report *'Urban Wastewater Treatment in 2019'* identified that:

- Wastewater treatment at 19 towns and cities (including **Portlaw**) did not meet European standards for the treatment of urban wastewater in 2018;
- Raw sewage is released into the environment from 35 urban areas;
- Wastewater from 48 areas (including **Dungarvan** and **Kill**) is the main significant pressure on waters at risk of pollution;
- Wastewater contributed to poor quality bathing waters at three beaches in 2019;
- Discharges from 13 areas must improve to protect freshwater pearl mussels;
- Irish Water must complete assessments of the impacts of wastewater discharges on 26 shellfish waters to inform the need for any improvements; and
- Seven wastewater collection systems have been found non-compliant with European Union requirements.
- **There are four urban areas in the County that are listed as Priority Areas** (**Dungarvan, Kill** and **Portlaw**) where improvements are required to resolve urgent environmental issues with respect to wastewater treatment.

The County is served by Wastewater Treatment Plants (WWTPs) that are in the ownership and maintenance of Irish Water. In unserviced areas and outside the main settlements, the main method of sewage disposal is by individual septic tanks and proprietary wastewater treatment systems. Waterford City is served by the Waterford City WWTP, which has a designed capacity of 190,600 PE.

Irish Water has provided information on wastewater treatment capacity, constraints and projects planned within the County to improve the existing network, to assist the Council in the preparation of the new County Development Plan. This information (shown on Table 4.2 and Table 4.3) indicates where there may be wastewater treatment capacity available to accommodate growth ("headroom") in terms of population equivalent[67] (PE) in areas serviced by a public wastewater treatment plant. Spare treatment capacity is identified as being available in most of the settlements, except for

[67] WWTPs are described in terms of their designed treatment capacity, which is generally expressed as population equivalent (PE). This is a measurement of total organic biodegradable load, including industrial, institutional, commercial and domestic organic load, on a wastewater treatment plant, converted to the equivalent number of PEs. One person is considered to generate 60g of five-day Biochemical Oxygen Demand (BOD) per day. 1 PE is defined as being equivalent to 60g of BOD per day.

Annestown, Fenor, Clonea Power and Bonmahon/Knockmahon. The highest levels of headroom (PE) are available at Waterford City and Suburbs (76,095 PE), Dungarvan (6,574 PE) and Dunmore East (5,756 PE).

Table 4.4 provides information on wastewater treatment plant performance sourced from the EPA's 2019 Annual Environmental Reports (AERs). These Wastewater Agglomerations are subject to Wastewater Discharge Licences issued by The Environmental Protection Agency. WWTPs non-compliant with the Emission Limit Values (ELVs) set in the Discharge Licences include:

- **Tramore WWTP (D0015-01)**; and
- **Portlaw** (D0274-01).

Waterford City and County Council will work alongside and facilitate the delivery of Irish Water's Water Services Investment Programme, to ensure that all lands zoned or identified for development are serviced by an adequate wastewater collection and treatment system and in particular, to secure the delivery of regional and strategic wastewater schemes. In particular, to support and facilitate the delivery of new or improved wastewater treatment plants.

Irish Water is responsible for the treatment and disposal of the sludge that is generated from both its water and wastewater treatment plants. Irish Water has prepared a National Wastewater Sludge Management Plan 2016-2021 that outlines Irish Water's strategy to ensure a nationwide standardised approach for managing wastewater sludge over a 25-year period. A separate plan will be prepared in relation to sludge produced at drinking water plants.

4.11.10.2 Water Supply

Irish Water is responsible for providing and maintaining adequate public water supply infrastructure throughout the County.

There are 48 Water Resource Zones (WRZ) in County Waterford. The largest water resource zone is the East Waterford WRZ which serves Waterford City and Tramore, as well as a large rural hinterland and several villages. The Dungarvan WRZ serves Dungarvan Town, as well as some smaller villages and rural hinterland.[68] Table 4.3 provides additional information on drinking water capacity and constraints within the County.

Under Section 58 of the Environmental Protection Agency Act 1992, the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports that are supported by Remedial Action Lists (RALs). The RAL identifies water supplies that are not in compliance with the Regulations mentioned above. The most recent available RAL (Q4 of 2020 published in January 2021) identifies one County Waterford drinking water supply:

- **The Dungarvan Water Supply** is listed on the most recent EPA RAL due to poor turbidity removal. This Water Supply Scheme has a supply volume of 5,958 m^3/day, serving a population of 11,472 people. The proposed plan of action to remedy this issue is to upgrade the water treatment plant - install run to waste facility, turbidity monitors on each borehole, flow meters and level probes to be completed by June 2021.

Currently, Irish Water is developing the National Water Resource Plan outlining how to move to a sustainable, secure and reliable public drinking water supply over a 25-year period while safeguarding the environment. It will outline how Irish Water intends to maintain a balance between supply from water sources around the country and demand for drinking water over the short, medium and long term. This will facilitate future planning and ensure provision of sufficient, safe, clean drinking water to facilitate the social and economic growth of the County.

It is the policy of the Council to work in conjunction with Irish Water to protect existing water infrastructure, to maximise the potential of existing capacity and to facilitate the timely delivery of new wastewater services infrastructure to facilitate future growth.

4.11.10.3 Surface Water Drainage

Sustainable Urban Drainage systems (SUDS) can minimise the quantity and increase the quality of surface water runoff as well as mitigating adverse impacts of climate change. SUDS can also provide amenity and biodiversity benefits. The Council seeks to ensure the sustainable management of surface water

[68] Waterford City and County Development Plan 2021-2027

discharges in urban areas through the use of SUDS.

4.11.11 Waste Management

The Southern Waste Region comprises ten local authority areas of: Limerick; Tipperary; Wexford; Carlow; Kilkenny; Waterford; Cork City; Cork County; Kerry; and Clare.

The Southern Waste Management Plan 2015-2021 provides the framework for solid waste management in the region and sets out a range of policies and actions to meet specified mandatory and performance-based targets. It is underpinned by National and European waste legislation and the work carried out will ensure the continued management of waste in a safe and sustainable manner. The plan includes eight Strategic Objectives and three overarching targets:

- 1% reduction per annum in the quality of household waste generated per capita over the period of the Plan;
- Achieve a recycling rate of 50% of managed municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

The Southern Waste Management Plan states that the future role of local authorities in waste management will be focused on education, prevention, and resource efficiency activities as well as regulating householders, businesses and waste operators and enforcing waste legislation. Waste infrastructure provided by local authorities will mainly include bring banks and civic amenities.

4.11.12 Existing Problems

There are a number of challenges with respect to the provision of water services infrastructure that are described under Section 4.11 above.

The Water Services Section of Waterford City and County Council will co-operate with Irish Water in providing and maintaining adequate public water supply and wastewater collection and treatment infrastructure throughout the County for the period of the plan and beyond. In conjunction with Irish Water, the Water Services Section of Waterford City and County Council will endeavour to ensure the continued investment in and delivery of improvements to water infrastructure over the Plan period through the implementation of the Capital Investment Plan.

As part of the Plan preparation process, a submission was received identifying periodic discharge of sewage at Tramore Pier. Measures have been integrated into the Plan as adopted related to water services, including those related to waste water.

The provisions of the new County Development Plan will contribute towards protection of the environment with regard to impacts arising from material assets.

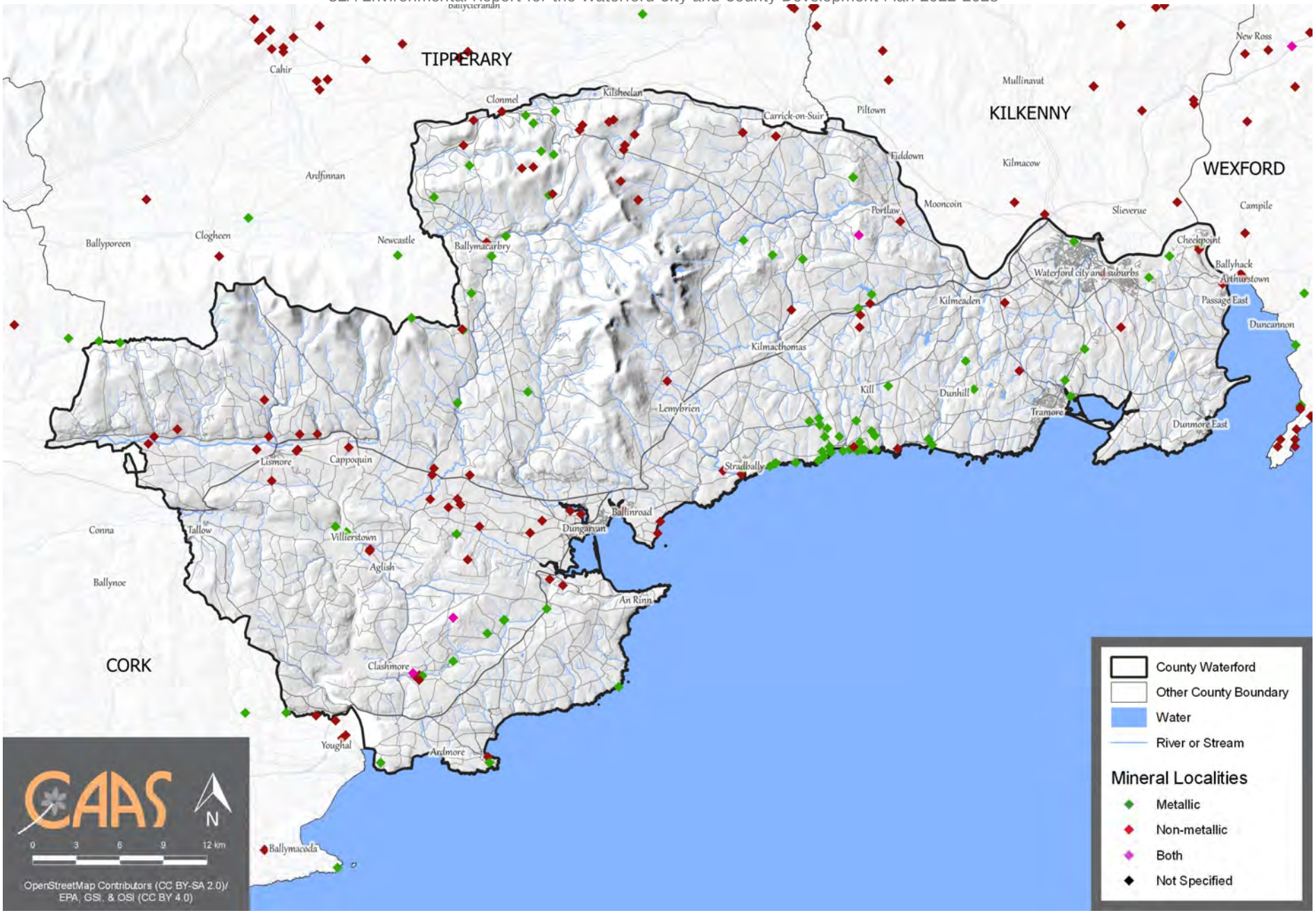


Figure 4.21 Minerals Localities

Table 4.2 Water Services Capacity and Constraints in County Waterford[69]

	Category & Place	WWTP Capacity [* Irish Water data]	Spare WWTP capacity	Waste Water Network	Water Network
1	**City-Metro Area**				
	Waterford City & Suburbs	190600*	76095*		
2	**Key Town**				
	Dungarvan/ Ballinroad	D: 25,000 PE B: 1,500 PE*	D: 6,574 PE* B: 500 PE*		
3A	**Large Urban Town**				
	Tramore	20,000 PE Plant*	2800 PE*		
3B	**Urban Towns**				
	Dunmore East	8,991 PE*	5,756 PE*		
	Portlaw	1,600 PE upgrade to 2,500 PE by 2021*	414 PE*		
	Lismore	3,000 PE*	586 PE*		
4A	**Large Rural Towns**				
	Tallow	2,186 PE*	708 PE*		
	Kilmacthomas	2,100 PE*	883 PE*		
	Cappoquin	1,750 PE*	432 PE*		
	Stradbally	1,914 PE*	1,267 PE*		
	Ardmore	2,934 PE*	1,439 PE*		
4B	**Rural Villages**				
	Aglish	800 PE	300 PE		
	Cheekpoint	750 PE	432 PE		
	Villierstown	700 PE	400 PE		
	Kill	750 PE (ICW)	450 PE		
	Clashmore				
	Dunhill	500 PE (ICW)	300 PE		
	Ballyduff Upper (west)	ST near capacity.	200 PE possibly		
	Annestown	ST @ capacity.			
	Fenor	ST @ capacity			
	Clonea Power	ST @ capacity			
	Rathgormack	ST			
	Touraneena	ICW			
	Ballymacarbry				
	Rural Networks				
	Passage East/ Crooke		NO DATA		
	An Rinn (Heilbhic/ Maoil na Choirne/ Baile na nGall / Old Parish)	1,600 PE*	630 PE*		
	Kilmeaden/ Ballyduff Lower (east)	1,142 PE	883 PE		
	Lemybrien/ Kilrossanty				
	Bonmahon/ Knockmahon	3 X ST @ capacity			
Other					
	Waterford Airport				

[69] Waterford City and County Development Plan 2022-2028

Table 4.3 Additional Wastewater and Drinking Water Capacity and Constraints Information[70]

Category & Place	Waste Water Network Comment	Water Network Comment
City-Metropolitan Area		
Waterford City & Suburbs	Avondale Sewer under pressure. Significant upgrade of sewer to service lands south of Greenfields/Fairfield. Ballygunner pipe network is restrictive. Combined flow is an issue in historic city network, Kilbarry and Gracedieu generally have capacity.	Gracedieu and Ballygunner areas have capacity without impacting on other supplies. Good supply overall.
Waterford City Rural Area	Settlement details given below	Settlement details given below
Key Town		
Dungarvan/ Ballinroad	Ballinroad now pumped to Dungarvan. Treatment plant can be at capacity in peak seasons. Increased pump capacity at Southways can help service Monang Road, Shandon lands are readily serviceable. Ground water infiltration into network at the spring roundabout. Services in Abbeyside are good and gravity sewer by St. Augustine's can service Duckspool area and area north of N25.	Generally good water supply but storage capacity at plant is limited and needs a 5 year lead-in to deliver. Mains undersized on Ballinacourty line.
Large Urban Town		
Tramore	Major network capacity issues to all pump stations. Upgrade pipe size at Monvoy along Glen Road (225/300mm pipe to 450mm pipe) while 3 additional pumps required at An Garraun. Need upgrade of line on Cliff Road due to combined sewer and missed connections. WWTP at capacity 6 months of year due to PE and combined storm flows with overflow into back strand. Space for additional scarrifiers and settling ponds at WWTP. Infiltration of surface/ground water into the network.	Distribution issues especially to the north of church and ring road served from Sporthouse with history of breakages on this 10" main.
Urban Towns		
Dunmore East	New WWTP and network with spare capacity	Pressure poor in Killea and Coxtown.
Portlaw	Upgraded WWTP under commissioning and should be operational in early 2021	Local groundwater source with no capacity for servicing across the town, new connection needed to Adamstown. Small scale residential development is serviceable.
Lismore	WWTP and network with spare capacity	Supply plentiful but storage capacity is low with high leakage locally. Capacity needs review.
Large Rural Towns		
Tallow	Capacity issue and network improvements required.	New water source needed. Capacity for very small scale residential developments.
Kilmacthomas	New WWTP and network with spare capacity	Water supply and distribution is generally good, capacity needs review. Topography may be an issue in terms of pressure.
Cappoquin	New WWTP with spare capacity.	Capacity needs review
Stradbally	New WWTP with spare capacity.	Capacity available
Ardmore	New WWTP with spare capacity.	Parts of town ok but network needs to be upsized and extended.
Rural Villages		
Aglish	Capacity available.	Capacity available.
Cheekpoint	New WWTP with spare capacity.	Fouloun Reservoir (fed from Adamstown) at capacity – receives booster-pumped water.
Villierstown	Capacity available.	Capacity available.
Kill	Capacity available.	Capacity available
Clashmore		Capacity available.
Dunhill	ICW and surface bioretention ponds also with spare capacity.	Small developments possible with DPI but ground water difficult to treat consistently.
Ballyduff Upper (west)	Capacity needs review.	Capacity available.
Annestown		Capacity uncertain.
Fenor		Capacity uncertain.
Clonea Power	C. 2 acres of land acquired by WCCC near river for ICW but flooding and Pearl Mussel may be an issue with its location.	Capacity available.
Rathgormack		Capacity uncertain.
Touraneena	Extension to ICW required to facilitate substantive development.	Capacity uncertain.
Ballymacarbry	Combined flow resulting for heavy rainfall events causing flooding in septic tank. Pinewood on board to support new ICW and bioretention measures.	Borehole struggles during dry periods and yield assessment needed to support substantial development.
Other		**General capacity to service <10 houses.**
Waterford Airport	Existing ST needs upgrade to ICW or similar to support substantial development. Concern raised re collisions with birds previously by Airport where ICW proposed.	Capacity available
Rural Networks		
Passage East/ Crooke	While Crooke is connected to the WWTP, no connection to date from Passage to WWTP. No capacity in passage for new development of scale due to topography and access.	Fouloun Reservoir (318m3 storage capacity) at capacity and does not meet a required 24hr storage capacity – receives water from Adamstown
An Rinn (Heilbhic/ Maoil na Choirne/ Baile na nGall / Old Parish)	Major network capacity issues. Infiltration into sewer network. Pump station and network upgrade required to deal with current loading.	Capacity available
Kilmeaden/ Ballyduff Lower (east)	New WWTP with spare capacity.	Kilmeaden supply good for now.
Lemybrien/ Kilrossanty	WWTP significantly overloaded, upgrade required to deal with current loading.	Capacity uncertain, supply from Kilrossanty WTP – no recent data from borehole; capacity unknown.
Bonmahon/ Knockmahon	Multiple tanks need to be connected and taken to a new treatment site. Preliminary report done.	Capacity available.

[70] Waterford City and County Council

Table 4.4 Wastewater Treatment Plant Performance
(sourced from EPA's 2019 Annual Environmental Reports)

Plant name and Reference	Treatment Provided	Overall Compliance (Pass/Fail)	Parameter Failed	Cause of Exceedances and Significance of Results (Water Quality)	Organic Capacities (PE)		
					As Constructed	Collected Load (peak week)	Remaining
Waterford City D0022-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	190,600	116,576	74,024
Tramore[71] D0015-01	Secondary	Fail	Ammonia-Total (as N) mg/l	Cause: WWTP not designed for N removal • The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence. • The discharge from the wastewater treatment plant does not have an observable impact on the water quality.	20,000	15,183	4,817
Lismore D0176-01	Tertiary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	3,000	2,148	852
Cappoquin D0272-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	2,728	1,115	1,613
Tallow D0273-01	Tertiary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	2186	2295	0
Portlaw D0274-01	Tertiary	Fail	ortho-Phosphate (as P) – unspecified mg/l Suspended Solids mg/l	Cause: These ELV exceedances relate to the commissioning of the new sections of Plant as part of the WWTP upgrade works. • The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence. • The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. • The discharge from the wastewater treatment plant does not have an observable impact on the water quality. • The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status	2,500	1,796	704
Kilmacthomas D0275-01	Tertiary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	2,110	1,173	937
Baile Na nGall D0358-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	1,600	30	1,570
Ardmore D0162-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	2,934	1,312	1,622
Dunmore East D0170-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	8,991	3,436	5,555
Dungarvan D0017-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	25,000	20,103	4,897
Stradbally D0353-01	Secondary	Pass	N/A	The WWTP is compliant with the Emission Limit Values set in the Wastewater Discharge Licence.	1,914	563	1,351

[71] Note that as part of the Plan preparation process, a submission was received identifying periodic discharge of sewage at Tramore Pier. Measures have been integrated into the Plan as adopted related to water services, including those related to waste water.

4.12 Cultural Heritage

4.12.1 Archaeological Heritage

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. 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.

Waterford is Ireland's oldest city and has a rich and significant archaeological heritage, with the largest collection of medieval urban defences in Ireland with six intact towers, and over 700m meters of wall. There are many sites of significant archaeological interest in County, including the remains of a 9th century settlement in Woodstown along the River Suir – a unique and internationally important Viking site.

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

The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped. It is available from the National Monuments Service and at archaeology.ie.

The term 'monument' includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. All monuments in existence before 1700 A.D. are automatically considered to be historic monuments within the meaning of the Acts. Monuments of architectural and historical interest also come within the scope of the Acts. Monuments include: any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections; any cave, stone or other natural product, whether or not forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position; any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or, ritual, industrial or habitation site; and any place comprising the remains or traces of any such building, structure or erection, any such cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site, situated on land or in the territorial waters of the State', but excludes 'any building or part of any building, that is habitually used for ecclesiastical purposes' (National Monuments Acts 1930-2004).

A recorded monument is a monument included in the list and marked on the map, which comprises the RMP 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 Notification within which requirements for notifications of proposed works apply.

A sites and Monuments Record (SMR)[72] is a manual containing a numbered list of all certain and possible monuments accompanied. An Urban Archaeology Survey was completed in 1995 and contained reports on historic towns dating to before 1700 A.D. with a view to delineating zones of archaeological potential (SMR Zones of Notification). The SMR formed the basis for issuing the RMP.

There are hundreds of Recorded Monuments within the County, including graveyards, castles, forts, crosses and churches. Figure 4.22 shows the spatial distribution of recorded monuments and associated SMR Zones of Notification in the County. Archaeological heritage within Waterford City, including Recorded Monuments, RMP and SMR Zones of Notification, are mapped on Map 12 in Appendix III.

Clusters of archaeological heritage in the County are concentrated in the foothills of the mountains, along the coast and within and surrounding towns and villages. There are

[72] The RMP was issued for each county between 1995 and 1998 in a similar format to the existing SMR. However, the RMP differs from the earlier lists in that, as defined in the Act, only monuments with known locations or places where there are believed to be monuments are included. The large archive and supporting database are managed by the National Monuments Service and the records are continually updated and supplemented as additional monuments are discovered. (https://data.gov.ie/dataset/national-monuments-service-archaeological-survey-of-ireland).

lower concentrations in the central upland areas.

There are 12 Monuments in State Care (five in State Ownership and seven in State Guardianship)[73] within the County, including:

- Ardmore;
- Ballynageeragh;
- Kiltera;
- Drumlohan;
- Dungarvan Castle;
- Gaulstown;
- Knockeen;
- Matthewstown;
- Mothel Abbey;
- Double Tower;
- Reginald's Tower; and
- The French Church (Waterford).

County Waterford has significant industrial heritage with many sites documented by the National Monuments Service, including its industrial mining heritage within the Copper Coast Global UNESCO Geopark.

The Underwater Archaeology Unit was established within the National Monuments Service to manage and protect Ireland's underwater cultural heritage, including the quantification of the underwater resource and assessing development impacts in order to manage and protect this aspect of Ireland's heritage. The Shipwreck Inventory is principally a desktop survey with 64nformationn gathered from a broad range of cartographic, archaeological and historical sources, both documentary and pictorial. Wrecks over 100 years old and archaeological objects found underwater are protected under the National Monuments (Amendment) Acts 1987 and 1994. Significant wrecks less than 100 years old can be designated by Underwater Heritage Order on account of their historical, archaeological or artistic importance. Such Orders can also be used to designate areas of seabed or land covered by water to more clearly define and protect wreck sites and archaeological objects. Under the legislation all diving on known protected wreck sites or with the intention of searching for underwater cultural heritage is subject to licensing requirements.

Rivers, estuaries and marine and coastal areas within and adjacent to the County may contain many features and finds associated with riverine heritage such as shipwrecks, piers, quay walls, fords, stepping stones and associated archaeological objects and features.

4.12.2 Architectural Heritage

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.

Records of Protected Structures are legislated for under Section 12 and Section 51 of the Planning and Development Act 2000 as amended. Protected structures are defined in the Planning and Development Act 2000 as amended as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

There are 1,477 entries to the Record of Protected Structures within the County, including 677 in the City. Similar to the general spatial spread of archaeological heritage, clusters of architectural heritage are indicated within the County's settlements as shown on Figure 4.23.

Architectural designations within Waterford City are mapped on Map 13 in the Appendix III and include entries to the RPS, NIAH and ACAs.

In relation to a protected structure or proposed protected structure, the following are encompassed:

- The interior of the structure;
- The land lying within the curtilage[74] of the structure;
- Any other structures lying within that curtilage and their interiors; and

[73] This list of National Monuments in State care includes those which are in the ownership and guardianship of the Minister for the Environment, Heritage and Local Government.

[74] Curtilage is normally taken to be the parcel of ground immediately associated with the Protected Structure, or in use for the purposes of the structure. Protection extends to the buildings and land lying within the curtilage. While the curtilage sometimes coincides with the present property boundary, it can originally have included lands, features or even buildings now in separate ownership, e.g. the lodge of a former country house, or the garden features located in land subsequently sold off. Such lands are described as being attendant grounds, and the protection extends to them just as if they were still within the curtilage of the Protected Structure.

- All fixtures and features that form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii).

Waterford's rich industrial and maritime heritage (such as mills, quays and lighthouses) and vernacular heritage (including town houses, thatched cottages and farm complexes) also contribute significantly to the built heritage character of the County.

In addition to Protected Structures, the Planning and Development Act provides the legislative basis for the protection of Architectural Conservation Areas (ACAs). An ACA is a place, area or group of structures or townscape that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures, whose character it is an objective to preserve in a development plan. The ACA designation requires that planning permission must be obtained before significant works can be carried out to the exterior of a structure in the ACA that might alter the character of the structure or the ACA. The ACAs in the County are mapped on Figure 4.23 and listed below.

Existing ACAs are designated in the following settlements:

- Dungarvan;
- Waterford City (Trinity); and
- Waterford City (South Quay).

ACAs are proposed for designation in the following settlements:

- Aglish;
- Copper Coast;
- Passage East;
- Annestown;
- Clashmore;
- Portlaw;
- Ardmore;
- Clonea Power;
- Stradbally;
- Ballyduff West;
- Dunmore East;
- Tallow;
- Cappoquin;
- Kilmacthomas;
- Tramore;
- Cheekpoint;
- Lismore; and
- Waterford City (alteration and new in Waterford City).

The National Inventory of Architectural Heritage (NIAH) is a State initiative under the administration of the Department of Culture, 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 of Culture, Heritage and the Gaeltacht to the local authorities for the inclusion of particular structures in their Record of Protected Structures. Waterford has a rich heritage of gardens and designed landscapes. These are usually associated with the country houses and demesnes, such as Curraghmore, Cappoquin, Dromana and Mount Congreve. The NIAH includes historic gardens and designed landscapes. Figure 4.23 shows entries to NIAH within the County.

4.12.3 Existing Problems

No existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

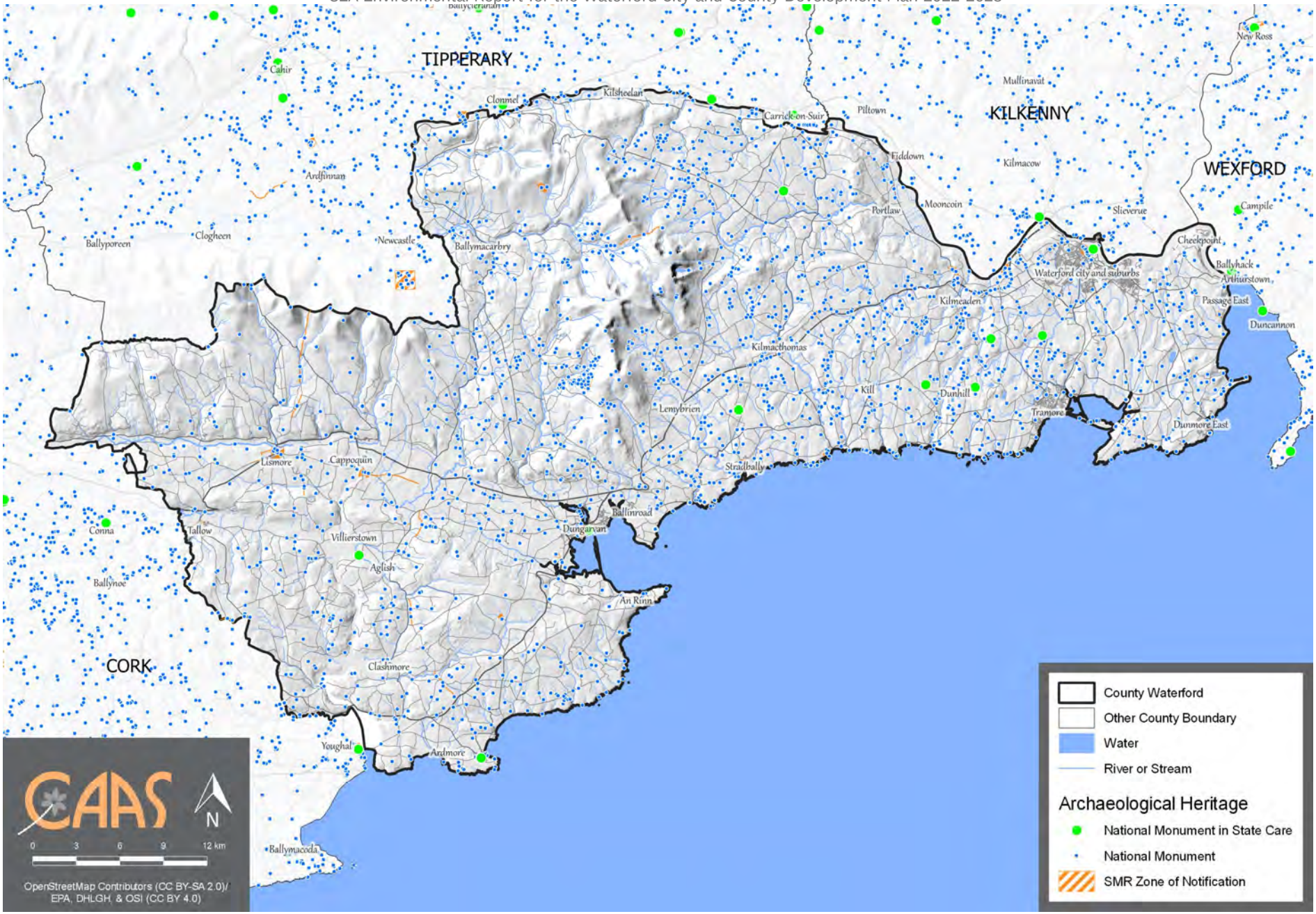


Figure 4.22 Archaeological Heritage

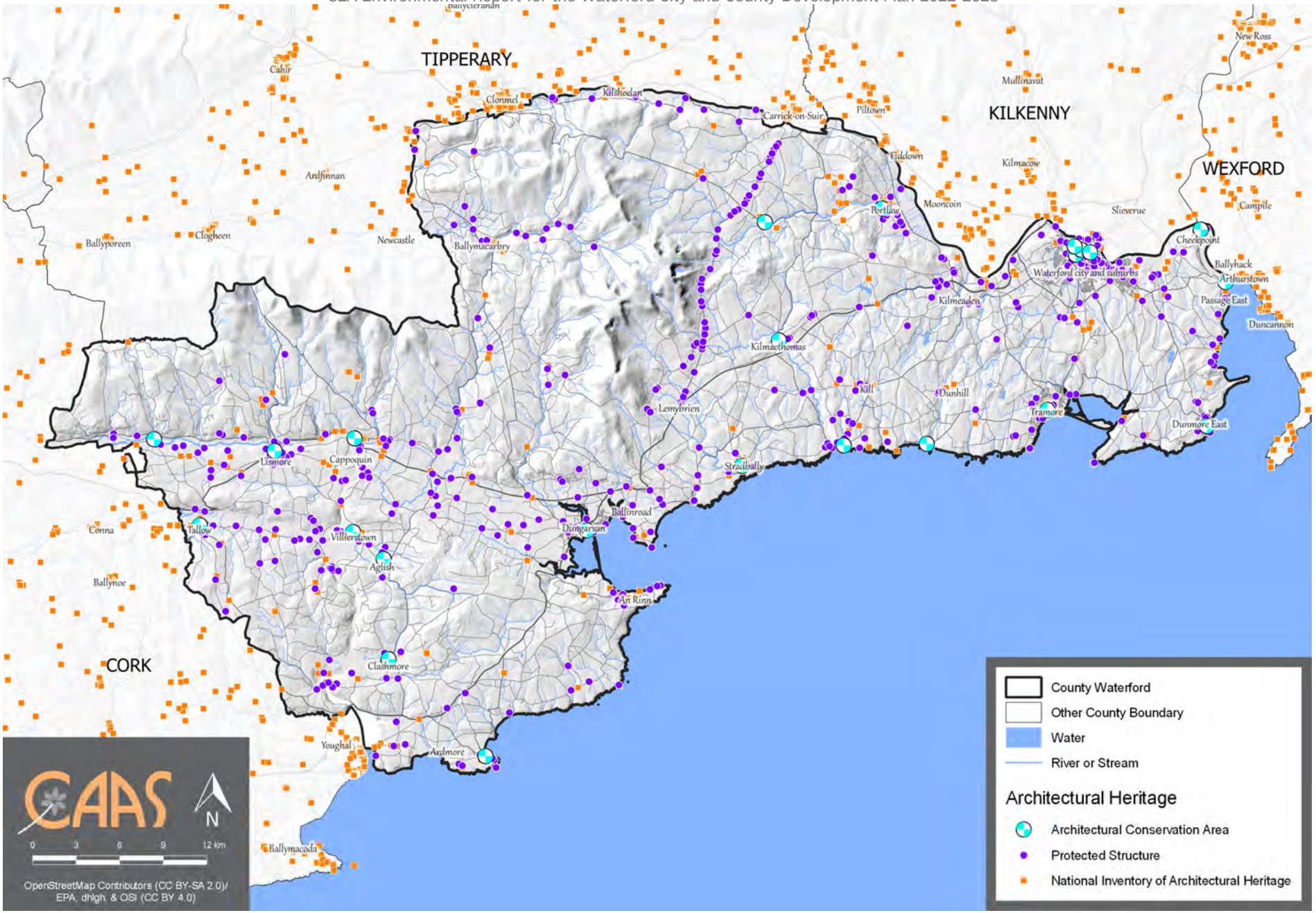


Figure 4.23 Architectural Heritage

4.13 Landscape

4.13.1 Introduction

Article 1 (a) of the European Landscape Convention provides a definition of landscape as follows; "Landscape means an area, as perceived by people whose character is the result of the action and interaction of natural/or human factors". 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.

Waterford has a very diverse landscape including uplands, waterway corridors, demesne and coastal landscapes. Mountain regions, including the Comeragh Mountains, are found mainly in the north-west and centre of the County, and several south-flowing river systems, including the Suir, the Blackwater and the Bride, and a rugged coastline with many coves and beaches in the east and south-east of the County. The east of the County is low-lying and has a concentration of lakes and wetlands.

4.13.2 Landscape Character Assessment [75]

The European Landscape Convention was ratified in Ireland in 2002, this required EU Member States to adopt national measures to promote landscape, planning, protection and management.

The purpose of landscape character assessment is to provide the foundation for policy formulation and decision making for landscape management.

The Landscape and Seascape Character Assessment for Waterford City and County identifies six landscape types:

- Coastal;
- River Corridor and Estuary;
- Farmed Lowland;
- Foothill;
- Upland; and
- Urbanised.

These landscapes are subject to varying forces for change and have varying capacity to accommodate development that can impact on that particular landscape. The most sensitive areas are the most impacted by development and therefore developments which are likely to create a significant environmental and particularly visual impact will best be absorbed in areas where the landscape is most robust, i.e. have the capacity to absorb development without significantly changing its character.

The Plan area encompasses many sites and vantage points from which views over areas of great natural beauty, local landmarks, historic landscapes and adjoining Counties may be obtained. In addition to scenic views, the County also contains important prospects i.e. prominent landscapes or areas of special amenity value or special interest which are visible from the surrounding area.

4.13.3 Landscape Designations in Adjacent Counties

County Wexford borders County Waterford to the east, adjoined by the Waterford Harbour. The Landscape Character Assessment for Wexford identifies four Landscape Character Units: Uplands; Lowlands; River Valleys; and Coastal. Sensitive areas within these Units include: Hills and Ridges; Water Bodies; The Islands; Coastal Promontories; The Hook Peninsula; Screen Hills; and Slobs.

County Kilkenny borders County Waterford to the north-east. There are four Landscape Character Types designated in County Kilkenny: Upland Areas; Lowland Areas; River Valleys; and Transitional Areas. These Areas cover a number of sub-areas including the South Kilkenny Lowlands adjacent to County Waterford. Other landscape designations within County Kilkenny include Scenic Routes and Scenic Views.

County Tipperary borders County Waterford to the north. There are 23 Landscape Character Areas identified within County Tipperary. Knockmealdown Mountain Mosaic, River Suir Central Plain and Urban and Fringe Area Landscape Character Areas occur adjacent to

[75] Any updates to the existing Landscape Character Assessment will inform subsequent revisions of this SEA Environmental Report.

County Waterford. Other landscape designations include a number of Scenic Views and Prospects for Protection.

County Cork borders County Waterford to the south-west. Landscape of County Cork is divided into 16 Landscape Character Types. Landscape Character Types are sub-divided into 76 Landscape Character Areas. Landscape types are evaluated in terms of Landscape Value, Landscape Sensitivity and Landscape Importance.

4.13.4 Existing Environmental Problems

New developments have resulted in changes to the visual appearance of lands within the County however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

4.14 Overlay of Environmental Sensitivity Mapping

In order to identify where most sensitivities within the County occur, a number of the environmental sensitivities described above were weighted and mapped overlapping each other.

Figure 4.24 provides an Overlay of Environmental Sensitivities in the County. Environmental sensitivities are indicated by colours which range from higher to lower sensitivity. The map was prepared using Geographical Information System (GIS) software that allowed for a weighting system to be applied with differentiation in certain layers as follows:

- European sites – SACs and SPAs (10 points);
- Other Ecological designations – pNHAs (5 points);
- Sensitive Landcover Categories (10 points);
- Margaritifera Sensitive Areas (5 points);
- WFD Status of Surface moderate and unassigned ecological status (5 points);
- WFD Status of Surface water poor ecological status (10 points);
- Groundwater vulnerability (aquifers which are extremely vulnerable - 10 points; and highly vulnerable - 5 points);
- Source Protection Areas (Inner Protection Area and Group Scheme Preliminary Source Protection Areas - 10 points; Outer Protection Area - 5 points);
- WFD RPA Nutrient Sensitive Rivers, Lakes and Estuaries (10 points) and Rivers in Nutrient Sensitive Areas (5 points);
- WFD RPA Rivers and Lakes for Drinking Water (10 points);
- WFD RPA Salmonid River Regs (S.I. 293 only) – 10 points; and Surface Waters and Groundwater in Salmonid Regs 5 points;
- WFD RPA Rivers in Salmonid Regs (5 points);
- County Geological Sites (10 points);
- Copper Coast UNESCO Global Geopark (10 points);
- GSI Landslide Susceptibility (High or High Inferred – 10 points; Moderately High or Moderately High Inferred – 5 points);
- Preliminary Flood Risk Assessment Flood Zone A (10 points) and Flood Zone B (5 points); and
- Cultural Heritage including Architectural Conservation Areas, entries to the Record of Protected Structures, entries to the Record of Monuments and Places, National Monuments in State Care and entire to the National Inventory of Architectural Heritage (10 points).

Where the mapping shows a concentration of environmental sensitivities there is an increased likelihood that development will conflict with these sensitivities and cause environmental deterioration. However, the occurrence of environmental sensitivities does not preclude development; rather it flags at a strategic level that the mitigation measures - which have been integrated into the Plan - will need to be complied with in order to ensure that the implementation of the Plan contributes towards environmental protection.

The overlay mapping shows that environmental sensitivities are not evenly distributed throughout the County. Most of the County is identified as having low to moderate levels of sensitivity.

The most sensitive areas include:

- Upland and foothill areas of the County, including the Comeragh Mountains, on account of European Site ecological designations, archaeological heritage and landscape sensitives and areas of extreme and high groundwater vulnerability;

- Parts of the coastline and adjacent coastal areas, including Waterford Estuary, Tramore dunes and coast, the mid-Waterford Coast, Dungarvan Harbour, Helvic Head to Ballyquinn, Ardmore Head and the Blackwater Estuary, on account of European Site and proposed Natural Heritage Area and UNESCO Global Geopark designations, WFD RPA designations, areas of extreme groundwater vulnerability and coastal flood risk;

- Certain locations and areas within the existing built-up footprint of the County, including Waterford City, on account of cultural heritage designations, including entries to the Record of Monuments and Places, Entries to the Record of Protected Structures and Architectural Conservation Areas; and

- Certain areas that are adjacent to streams and rivers, on account of flood risk, including those areas along the Rivers Suir and Blackwater and their tributaries.

The EPA-funded Environmental Sensitivity Mapping Web Tool could assist in lower-tier consideration of plans and projects.

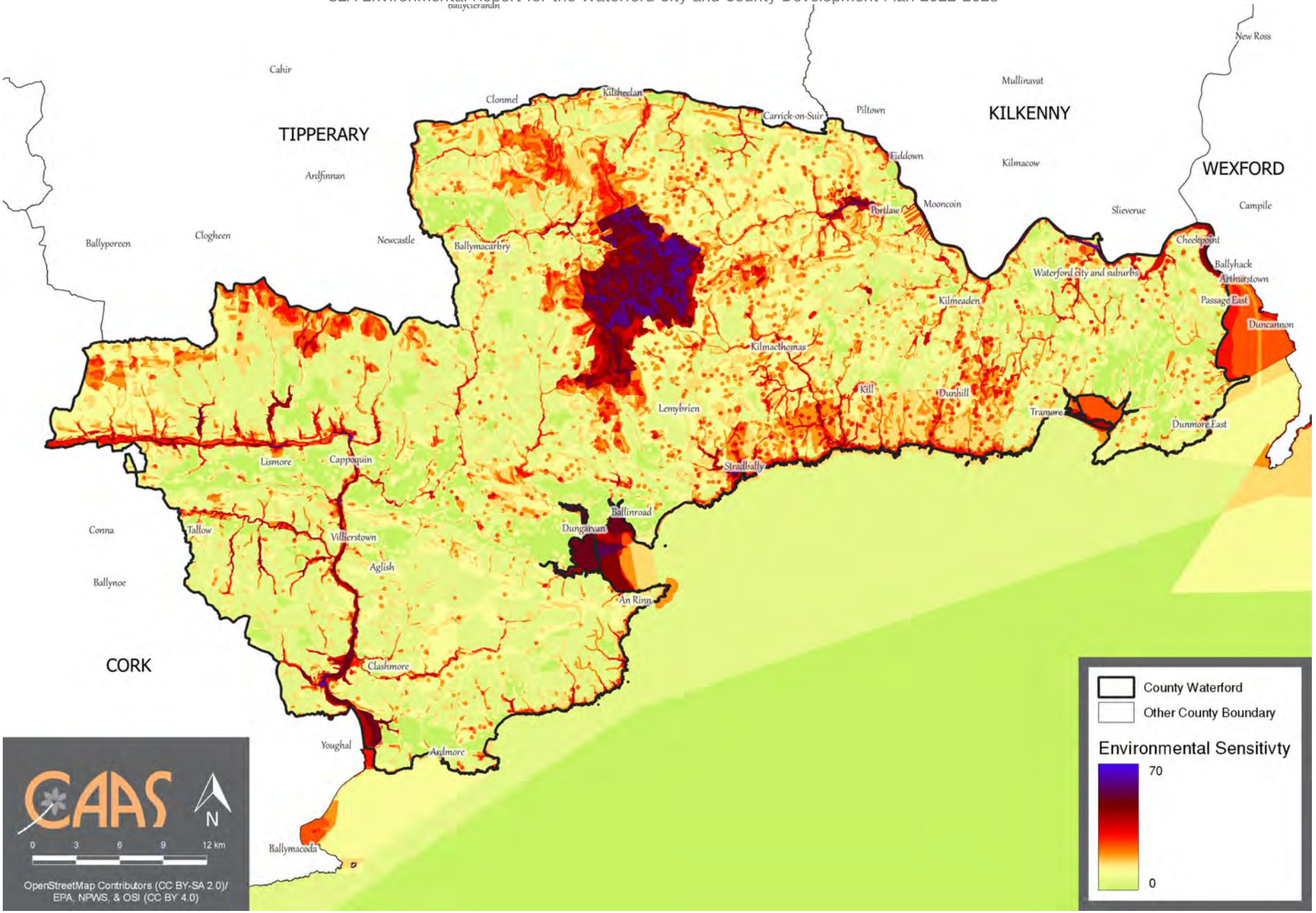


Figure 4.24 Overlay of Environmental Sensitivities in Waterford City and County

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives that 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 Plan 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 well as identifying targets which the Plan can help work towards.

All SEOs, indicators and targets are provided on Table 5.1 overleaf.

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

Given the position of the Development Plan in the land use planning hierarchy beneath RSES, the measures identified in the RSES SEAs, including the Southern RSES SEA, have been used – as they are or having been slightly modified – in most instances. This consistency across the hierarchy of land use plans will improve the efficiency and effectiveness of future monitoring.

Table 5.1 Strategic Environmental Objectives (SEOs), Indicators and Targets

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives	Indicators	Targets
Biodiversity, Flora and Fauna	**BFF**	No net contribution to biodiversity losses or deterioration	• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species • Enhance biodiversity in line with the National Biodiversity Action Plan and its targets • To protect, maintain and conserve the City and County's natural capital	• Condition of European sites	• Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species • Implement and review, as relevant, the County Heritage Plan 2017-2022
				• Number of spatial plans that have included ecosystem services content, mapping and policy to protect ecosystem services when their relevant plans are either revised or drafted	• Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species • Implement and review, as relevant, County Heritage Plan 2017-2022
				• SEAs and AAs as relevant for new Council policies, plans, programmes etc.	• Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.
				• Status of water quality in the City and County's water bodies	• Included under Water below
				• Compliance of planning permissions with Plan measures providing for the protection of Biodiversity and flora and fauna – see Chapter 9 "Climate Action, Biodiversity and Environment"	• For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 9 "Climate Action, Biodiversity and Environment"
Population and Human Health	**PHH**	Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services • Safeguard the City and County's citizens from environment-related pressures and risks to health and well-being	• Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 4 "Economy, Tourism, Education and Retail"	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided for by Chapter 4 "Economy, Tourism, Education and Retail" • By 2020 all citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps (Also relevant to Material Assets)
				• Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan	• No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan
				• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures
				• Number of spatial plans that include specific green infrastructure mapping	• Require all local level land use plans to include specific green infrastructure mapping

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives	Indicators	Targets
Soil (and Land)	**S**	Ensure the long-term sustainable management of land	• Protect soils against pollution, and prevent degradation of the soil resource • Promote the sustainable use of infill and brownfield sites over the use of greenfield sites within the City and County • Safeguard areas of prime agricultural land and designated geological sites	• Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets)	• Maintain built surface cover nationally to below the EU average of 4% as per the NPF • In accordance with National Policy Objectives 3c of the National Planning Framework, a minimum of 30% of the housing growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement • To map brownfield and infill land parcels across the City and County
				• Instances where contaminated material generated from brownfield and infill must be disposed of	• Dispose of contaminated material in compliance with EPA guidance and waste management requirements
				• Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission	• Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission
Water	**W**	Protection, improvement and sustainable management of the water resource	• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • Ensure water resources are sustainably managed to deliver proposed regional and County growth targets in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals	• Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD	• Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' • Implementation of the objectives of the River Basin Management Plan
				• Number of incompatible developments permitted within flood risk areas	• Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk
Material Assets	**MA**	Sustainable and efficient use of natural resources	• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the City and County - this includes transport infrastructure • Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, solar, hydro, biomass, energy from waste and traditional fossil fuels • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development	• Programmed delivery of Irish Water infrastructure for all key growth towns in line with Irish Water Investment Plan and prioritisation programme to ensure sustainable growth can be accommodated • Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	• All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan • Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate that the outfall from the septic tank will not – in- combination with other septic tanks– contribute towards any surface or ground water body not meeting the objective of good status under the Water Framework Directive • Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure • See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives	Indicators	Targets
			• Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes • Encourage the transition to a zero-carbon economy by facilitating the development of a grid infrastructure to support renewables and international connectivity. Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart- buildings, cities and grids	• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures
Air	**A**	Support clean air policies that reduce the impact of air pollution on the environment and public health	• To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels	• Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels of 74% • NO_x, SO_x, PM10 and PM2.5 as part of Ambient Air Quality Monitoring	• Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels • Improvement in Air Quality trends, particularly in relation to transport related emissions of NO_x and particulate matter
Climatic Factors [76]	**C**	Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts	• To minimise emissions of greenhouse gasses • Integrate sustainable design solutions into the City and County's infrastructure (e.g. energy efficient buildings; green infrastructure) • Contribute towards the reduction of greenhouse gas emissions in line with national targets • Promote development resilient to the effects of climate change • Promote the use of renewable energy, energy efficient development and increased use of public transport	• Implementation of Plan measures relating to climate reduction targets	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets
				• A competitive, low-carbon, climate-resilient and environmentally sustainable economy	• Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050
				• Share of renewable energy in transport	• Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the Plan
				• Carbon dioxide (CO_2) emissions across the electricity generation, built environment and transport sectors	• Contribute towards the target of aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared

[76] Please also refer to relevant legislation and requirements under Section 4.10, Section 8.6, Section 8.8.9 and Appendix I. Targets under the national Climate Action Plan are reviewed and updated periodically and include those under the headings of Electricity, Built Environment, Transport, Agriculture, Forestry & Land Use and Enterprise.

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives	Indicators	Targets
					to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors
				• Energy consumption, the uptake of renewable options and solid fuels for residential heating	• To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating
				• Proportion of journeys made by private fossil fuel-based car compared to 2016 levels	• Decrease in the proportion of journeys made by residents of the City and County using private fossil fuel-based car compared to 2016 levels
				• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures
Cultural Heritage	**CH**	Safeguard cultural heritage features and their settings through responsible design and positioning of development	Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage	• Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan	• Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan
				• 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	• 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
Landscape	**L**	Protect and enhance the landscape character	To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention	• Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan	• No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan

Section 6 Description of Alternatives

6.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. Available reasonable alternatives for the City and County Development Plan are considered under Types 1 to 8 detailed below. Where alternatives are identified by the planning authority, these are assessed in Section 7.

6.2 Limitations in Available Alternatives

The Plan is required to be prepared by the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan.

The alternatives available for the Plan are limited by the provisions of higher-level planning objectives, including those of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Southern Region and associated Waterford Metropolitan Area Strategic Plan (MASP). These documents set out various requirements for the content of the Plan including on topics such as settlement typology, land use zoning and the sustainable development of rural areas.

6.3 Type 1: Alternatives for an Ecosystem Services Approach to the Plan

Although many natural capital[77] and ecosystem[78] service issues have been taken into account over previous Plan periods, the importance of these in fulfilling environmental obligations has increasingly emerged. An Ecosystems Services Approach would provide a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. In terms of an ecosystems services approach to the plan, two scenarios were explored:

- Alternative A: A Plan that takes a more focused Ecosystems Services Approach.

  This alternative would continue the work carried out in previous plans in relation to habitat mapping and protection of local sites of biodiversity interest such as wetlands.

  The Waterford Wetland Survey would be completed in recognition of the value these habitats provide for biodiversity, flood management and carbon capture. Development of integrated constructed wetlands would be encouraged where appropriate for smaller settlements. Biodiversity policies would seek to prevent biodiversity loss and also design in biodiversity gain/enhamcement where possible. Increased tree planting and retention and establishment of hedgerows would be promoted in the interests of ecological connectivity and in support of climate change adaptation measures.

  Nature based catchment management systems would be prioritised in flood alleviation works where possible, or least in tandem with hard engineering options where appropriate. Natural Water Retention Measures and SuDs would be prioritised for management of surface water or least in tandem with hard engineering options where appropriate.

[77] Renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals)
[78] Ecosystems are multifunctional communities of living organisms interacting with each other and their environment. Ecosystems provide a series of services for human well-being (ecosystem services) either directly or indirectly contributing towards human wellbeing

- Alternative B: A Plan that does the basics but takes a less focused Ecosystems Services Approach

6.4 Type 2: Alternatives for an infrastructure led approach to the Plan

In terms of infrastructure led approach to the plan, two alternatives can be considered:

- **Alternative A:** A Plan that takes a strict infrastructure led approach.

  This alternative ensures that the sustainable development of settlements occurs, with new development accompanied by adequate and appropriate infrastructure.

  This alternative would also facilitate the development of a concentric Waterford City, both north and south of the River Suir, and other key enablers for the MASP area.

  It is important to note that an infrastructure-led approach does not exclude the consideration of nature-based solutions, and that such solutions would be the preferred priority, followed by an integrated hard engineered and nature-based solution, or solely a hard engineered approach.

- **Alternative B:** A Plan that does not takes a less strict infrastructure led approach.

  This alternative considers existing and future demand and capacity in infrastructure but the allocation of growth and associated policy responses are looser than under Alternative A. Decisions relating to infrastructure assessment are left to project level wherever this is possibly.

6.5 Type 3: Alternatives for Positioning under the Settlement Hierarchy

The NPF and RSES set out clear frameworks to guide the identification of settlement hierarchies across the country and region respectively. The settlement typology and MASP provisions have been considered, and it can be confirmed that no realistic alternatives are available for placing of individual settlements under alternative typologies, taking into account the objectives of the higher-level NPF and Southern RSES.

6.6 Type 4: Alternatives for Population Allocations

The RSES has identified population targets for Waterford City and County, based on the principles of regional growth set out in the NPF. The population allocations and targets underpinning the Core and Settlement Strategies will be consistent with the population provisions of the NPF and RSES, and settlement typology. It is considered that any alternatives which deviate materially from such a population allocation would be inappropriate in terms of compliance with national and regional policy, and achieving a pattern of growth which is strategic and sustainable.

While recognising the role of the population targets set out in the NPF, RSES and MASP, the development plan remains cognisance of the potential to exceed these targets for strategic reasons, some of which may include the successful delivery of the Key Enables as outlined in the RSES for the Waterford MASP, investment and delivery of the Technological University of the South-East, extended facilities and provision of regular services to and from Waterford Airport, realisation of pent up and undersupply of demand in the housing market, and the local context of land ownership, availability and release. The successful delivery of any or all of these may require a strategic review of the Core Strategy and the development plan during its lifetime in order to deliver Waterford City as a city of scale and a regional economic driver.

6.7 Type 5: Alternatives for Rural Waterford

Type 5 (i) Rural Areas under Strong Urban Influence/Pressure

- **Type 5 (i) Alternative A:** Designate Rural Areas under Strong Urban Influence/ Pressure

  Designate Rural Areas under Strong Urban Influence/ Pressure that require various criteria to be demonstrated and met in advance of planning permission being granted for a single dwelling for permanent occupation. The majority of rural county Waterford lies with the hinterlands or commuter catchments of either Cork or Waterford cities, west and east respectively, and the larger town of Clonmel to the north.

- **Type 5 (i) Alternative B:** Do not designate Rural Areas under Strong Urban Influence/Pressure and assess each planning application on its merits.

Type 5 (ii) Villages/Clusters/Nodes and Serviced Sites

- **Type 5 (ii) Alternative A:** Provide focus to and targeted policies/objectives for rural villages, clusters and nodes to act as a viable alternative to one-off housing in the open countryside.

  The identification of rural villages, clusters and nodes to facilitate a choice in providing for the housing and community needs of rural areas is an important element of supporting a choice and mix of housing within Waterford. This alternative would facilitate this by way of identifying such locations, and setting out development boundaries within which development may take place, subject to assessment in terms of design, siting, location and service provisions. More detailed land-use zoning objectives would be applied to larger villages, with the understanding that such areas would support a more compact form and greater quantum of development.

- **Type 5 (ii) Alternative B:** Rural villages, clusters and nodes are included but there is no focus or no targeted provisions for these locations to act as a viable alternative to one-off housing in the open countryside

6.8 Type 6: Alternatives for Densities

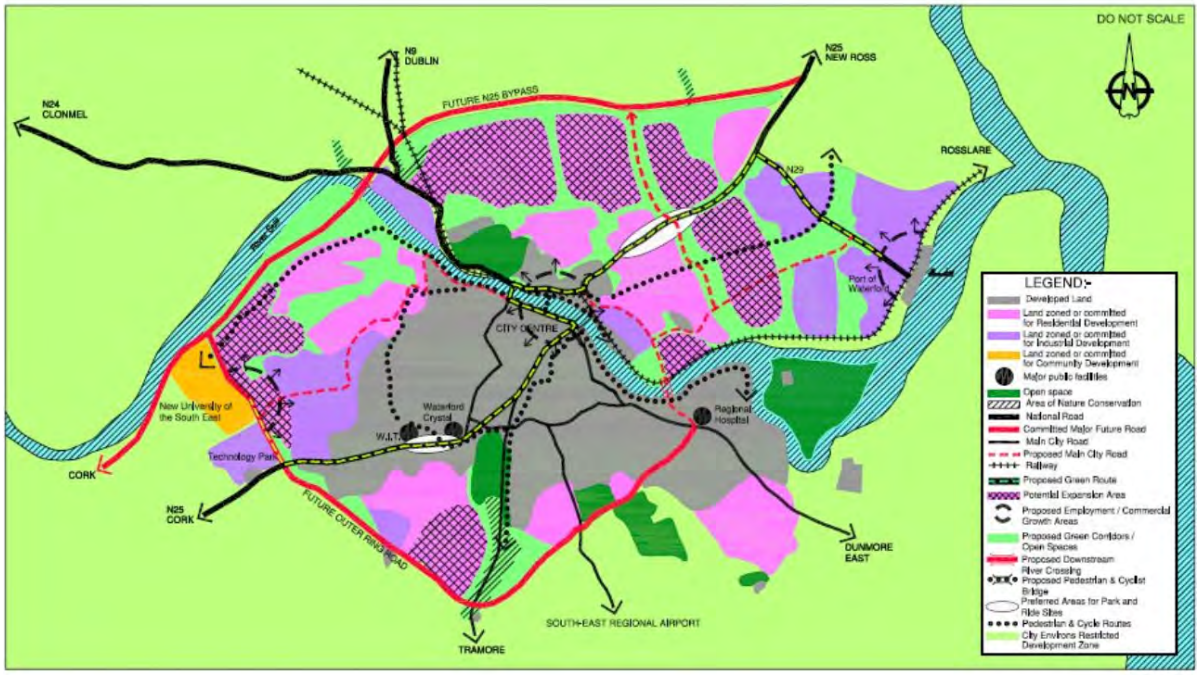
Alternatives identified relating to densities comprise:

- **Alternative A:** Application of a single standard residential density across all settlements.

- **Alternative B:** Application of different densities at different locations, as appropriate; higher densities where sustainable transport mode opportunities are available and lower densities where constraints are presented by, for example, wastewater and water infrastructure constraints, cultural heritage designations or the local road network.

6.9 Type 7: Waterford City - Concentric Approach

Incorporating the concentric model approach to the development of Waterford city as set out in the Waterford Planning Land Use and Transportation Strategy, RSES and MASP, seek to ensure that the future growth pattern and expression of the city will facilitate a more balanced expansion of the city over the lifetime of the NPF, and beyond. Furthermore, the MASP and RSES stress the need to ensure that a dedicated implementation body, in collaboration with the Southern Regional Assembly, Kilkenny County Council, government agencies, statutory and other service providers, is established to secure the sustainable growth of the city.



Waterford Planning Land-Use and Transportation Strategy (PLUTS) 2004 - 2020

Taking cognisance of these high-level objectives, the development plan has considered that there is no suitable alternative to this model of city growth which would be consistent with national and regional policy.

6.10 Type 8: Alternatives for Land Use Zoning

Land use zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF and Southern RSES.

The Council have identified reasonable alternatives for certain settlements, where these are available taking into account the various requirements set out in the higher-level NPF and Southern RSES.

The findings of the examination of available reasonable land use zoning alternatives for settlements is provided at Table 6.1. Maps for each of these alternatives are provided in Appendix I “Indicative Mapping of Land Use Zoning Alternatives”.

Table 6.1 Available Strategic Reasonable Alternatives

Land Use Zoning	Available Alternatives	Not available
Waterford City & Suburbs	Alternative A: More Compact Alternative B: Less Compact	
Dungarvan/ Ballinroad	Alternative A: More Compact Alternative B: Less Compact	
Clonmel	Alternative A: More Compact Alternative B: Less Compact	
Environs	Alternative A: More Compact Alternative B: Less Compact	
Tramore	Alternative A: More Compact Alternative B: Less Compact	
Dunmore East	Alternative A: More Compact Alternative B: Less Compact	
Portlaw	Alternative A: More Compact Alternative B: Less Compact	
Lismore	Alternative A: More Compact Alternative B: Less Compact	
Gaeltacht na nDéise	Alternative A: More Compact Alternative B: Less Compact	
Carrick on Suir Environs		✓

Section 7 Evaluation of Alternatives

7.1 Introduction

This section provides a comparative evaluation of the likely significant environmental effects[79] of implementing available alternatives that are described in Section 6. This determination sought to understand whether each alternative was likely to improve conflict with or have a neutral interaction with the receiving environment.

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 assessment of alternatives.

The degree to which effects can be determined is limited as implementation of the Plan will involve assessment, consideration and decision-making associated with lower tier plans and individual projects. Nonetheless a comparative evaluation of the various alternatives can be provided.

Table 7.1 Strategic Environmental Objectives[80]

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	**BFF**	No net contribution to biodiversity losses or deterioration	• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species • Enhance biodiversity in line with the National Biodiversity Action Plan and its targets • To protect, maintain and conserve the City and County's natural capital
Population and Human Health	**PHH**	Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services • Safeguard the City and County's citizens from environment-related pressures and risks to health and well-being
Soil (and Land)	**S**	Ensure the long-term sustainable management of land	• Protect soils against pollution, and prevent degradation of the soil resource • Promote the sustainable use of infill and brownfield sites over the use of greenfield sites within the City and County • Safeguard areas of prime agricultural land and designated geological sites
Water	**W**	Protection, improvement and sustainable management	• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • Ensure water resources are sustainably managed to deliver proposed regional and County growth targets in the context of existing and projected

[79] These effects include secondary, cumulative (see also Section 8.2), synergistic, short, medium and long-term permanent and temporary, positive and negative effects.
[80] See also Section 5

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
		of the water resource	water supply and wastewater capacity constraints ensuring the protection of receiving environments • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals
Material Assets	**MA**	Sustainable and efficient use of natural resources	• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the City and County - this includes transport infrastructure • Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, solar, hydro, biomass, energy from waste and traditional fossil fuels • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes • Encourage the transition to a zero-carbon economy by facilitating the development of a grid infrastructure to support renewables and international connectivity. Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart-buildings, cities and grids
Air	**A**	Support clean air policies that reduce the impact of air pollution on the environment and public health	• To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
Climatic Factors	**C**	Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts	• To minimise emissions of greenhouse gasses • Integrate sustainable design solutions into the City and County's infrastructure (e.g. energy efficient buildings; green infrastructure) • Contribute towards the reduction of greenhouse gas emissions in line with national targets • Promote development resilient to the effects of climate change • Promote the use of renewable energy, energy efficient development and increased use of public transport
Cultural Heritage	**CH**	Safeguard cultural heritage features and their settings through responsible design and positioning of development	Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
Landscape	**L**	Protect and enhance the landscape character	To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

7.3 Detailed Assessment of Alternatives

7.3.1 Effects Common to all Alternatives

Each of the alternatives would be part of a wider Plan envisaging – in compliance with the robust policy framework in place at national, regional and local level – sustainable development and compact growth in Waterford City and County generally. As such, common environmental effects (as detailed on Table 7.2) would be present under Plans adopting each of the different alternatives, albeit to varying degrees.

Table 7.2 Effects common to Plans adopting each of the different alternatives

Environmental Component	Significant Positive Effect, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated
Biodiversity and Flora and Fauna	• Contribution towards protection of ecology (including designated sites, ecological connectivity, habitats) by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond. • Sustains existing sustainable rural management practices – and the communities who support them – to ensure the continuation of long-established managed landscapes and the flora and fauna that they contain.	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; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.
Population and Human Health	• Promotion of economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management. • Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond • Contribution towards the protection of human health by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.	• Potential adverse effects arising from flood events. • Potential interactions if effects arising from environmental vectors.
Soil	• Contribution towards the protection of soils (including those used for agriculture) and designated sites of geological heritage by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.	• Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands. • Potential for riverbank and coastal erosion.
Water	• Contribution towards the protection of water by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond.	• Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology. • Increase in flood risk and associated effects associated with flood events.

Environmental Component	• Significant Positive Effect, likely to occur	• Potentially Significant Adverse Environmental Effects, if unmitigated
Material Assets	• Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond. • Contribution towards limits in increases in energy demand from the transport sector by facilitating sustainable compact growth.	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Increases in waste levels. • Potential impacts upon public assets and infrastructure. • Interactions between agriculture and soil, water, biodiversity and human health - including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter.
Air and Climatic Factors	• Contribution towards climate mitigation and adaptation by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond.	• Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives. • Potential conflicts between transport emissions, including those from cars, and air quality. • Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors. • Potential conflicts with climate adaptation measures including those relating to flood risk management.
Cultural Heritage	• Contributes towards protection of cultural heritage elsewhere in the City and County by facilitating development within existing settlements.	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	• Contributes towards protection of wider landscape and landscape designations by facilitating development within existing settlements.	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.

7.3.2 Assessment of Type 1: Alternatives for an Ecosystem[81] Services Approach to the Plan

Alternative A: "A Plan that takes a more focused Ecosystems Services Approach" would integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Principles that would be integrated throughout the Plan, in a coordinated and comprehensive manner, would include:

- Consideration of natural systems - by using knowledge of interactions in nature and how ecosystems function;
- Taking into account of the services that ecosystems provide - including those that underpin social and economic well-being, such as flood and climate regulation or recreation, culture and quality of life; and
- Involving people - those who benefit from the ecosystem services and those managing them need to be involved in decisions that affect them.

[81] Ecosystems are multifunctional communities of living organisms interacting with each other and their environment. Ecosystems provide a series of services for human well-being (ecosystem services) either directly or indirectly contributing towards human wellbeing

This would mean that there would be:

- An increased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital and ecosystem service issues, such as the management of air quality, noise pollution, light pollution, pollination, flood risk, water bodies and river basins and natural resources supporting energy production and recreation; and
- A decreased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

Alternative B: "A Plan that does the basics but takes a less focused Ecosystems Services Approach" would not integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

A less-interventionist approach to Ecosystems Services would provide less focus and attention to Ecosystem Services than would be the case under Alternative A and would not contribute towards achieving policy objectives of the RSES or NPF to the same degree as Alternative A.

As has been the case over previous plan periods, many natural capital and ecosystem service issues would be integrated into individual Plan Policy Objectives and into decision making at lower tiers of plan preparation and development management. However, this approach would be less coordinated and comprehensive than would be the case under Alternative A.

This would mean that there would be:

- A decreased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital and ecosystem service issues; and
- An increased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

Selected Type 1 Alternative for the Plan: Alternative A.

Type 1 alternatives are assessed against Strategic Environmental Objectives on Table 7.3.

Table 7.3 Assessment[82] of Type 1 Alternatives against Strategic Environmental Objectives

Alternative (selected alternative in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated	
	to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree
A. A Plan that takes a more focused Ecosystems Services Approach	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	
B. A Plan that does the basics but takes a less focused Ecosystems Services Approach		**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**

[82] The alternatives are evaluated using compatibility criteria in order to determine how they would be likely to affect the status of the existing environment and the SEOs. The SEOs and the alternatives are arrayed against each other to demonstrate which interactions would cause effects on specific components of the environment. Where the appraisal identifies an interaction with the status of an SEO the relevant SEO code is entered into the relevant column.

The interactions identified are reflective of likely significant environmental effects:

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 protection/management of the environmental component/issues to which the SEO relates.
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 a potential significant negative effect however these effects would be likely to be mitigated by measures which have been integrated into the Plan.

These effects include secondary, cumulative (see also Section 8.2), synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

7.3.3 Assessment of Type 2: Alternatives for an infrastructure led approach to the Plan

In terms of infrastructure led approach to the plan, two alternatives can be considered:

- **Alternative A:** A Plan that takes a strict infrastructure led approach.

  It is essential that development under the Plan is adequately served by infrastructure. An infrastructure led approach would support achieving the objectives of the NPF and RSES and associated Waterford MASP. An infrastructure led approach would provide a strategy for sustainable compact growth in all settlements, contribute to carbon reduction targets and achieve environmental enhancement and economic growth.

  This alternative ensures that the sustainable development of settlements occurs, with new development accompanied by adequate and appropriate infrastructure.

  This alternative would also facilitate the development of a concentric Waterford City, both north and south of the River Suir, and other key enablers for the MASP area.

  This alternative would benefit the efficient provision of infrastructure and the environment (including water, human health, ecology and air/climate) the most and would provide the highest levels of certainty and coherence to both decision makers and stakeholders, including residents and potential developers. Applications for developments would be more likely to be successful, and residual adverse effects would be least likely. This approach would also contribute towards compliance with the objectives of the RSES and NPF.

- **Alternative B**: A Plan that does not takes a less strict infrastructure led approach.

  This alternative considers existing and future demand and capacity in infrastructure but the allocation of growth and associated policy responses are looser than under Alternative A. Decisions relating to infrastructure assessment are left to project level wherever this is possibly.

  This alternative would benefit the efficient provision of infrastructure and the environment (including water, human health, ecology and air/climate) the least and would provide reduced levels of certainty and coherence to both decision makers and stakeholders, including residents and potential developers. Applications for developments would be less likely to be successful, and residual adverse effects would be more likely. Taking a less strict infrastructure led approach would not contribute towards achieving policy objectives of the RSES or NPF to the same degree as Alternative A.

Selected Type 2 Alternative for the Plan: Alternative A.

Type 2 alternatives are assessed against Strategic Environmental Objectives on Table 7.4.

Table 7.4 Assessment of Type 2 Alternatives against Strategic Environmental Objectives

Alternative (selected alternative in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated	
	to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree
A. A Plan that takes a strict infrastructure led approach	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	
B. A Plan that does not takes a less strict infrastructure led approach		**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**

7.3.1 Assessment of Type 5: Alternatives for Rural Waterford

Type 5 (i) Rural Areas under Strong Urban Influence/Pressure

- **Type 5 (i) Alternative A:** Designate Rural Areas under Strong Urban Influence/ Pressure

  The methodology behind Alternative A, would build on the current policy framework set out in the Waterford County Development Plan 2011 – 2017, and would be consistent with the strategy and policy objectives of the NPF and RSES, and Section 28 Ministerial guidelines.

  Alternative A provides for a robust and transparent policy approach to manage rural housing.

  Restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would positively impact upon the protection and management of the environment and sustainable development. The restrictions would help to both reduce levels of greenfield development in areas immediately surrounding existing centres and encourage brownfield development within existing centres.

  Single dwellings in rural areas would be facilitated as appropriate and urban development would be directed towards established settlements. This alternative would help to prevent low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

- **Type 5 (i) Alternative B:** Do not designate Rural Areas under Strong Urban Influence/Pressure and assess each planning application on its merits.

  In terms of aligning the SEA, AA, SFRA and the Plan Policy Objectives, pursuing Alternative B would raise significant challenges in assessing the full impacts and effects of the alternative strategy approach on the environment, particularly water quality, biodiversity, loss of productive capacity, road capacity and carbon footprint. Furthermore, such an Alternative would be contrary to the NPF, RSES and Ministerial guidelines.

  Alternative B Provides a vague and unclear policy approach to rural housing and risks facilitating a significant increase in urban-generated one-off housing in the open countryside which will undermine the role of small towns and villages and have consequences for the environment.

  Not restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would adversely impact upon the protection and management of the environment and sustainable development. The absence of restrictions would result in increased levels of greenfield development in areas immediately surrounding existing centres and less demand for brownfield development within existing centres.

  Urban generated housing development would occur within rural areas outside of established settlements. This alternative would result in low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

It is considered that Alternative A is the most appropriate means of ensuring that a sustainable approach to rural housing need and demand can be met, in a manner that considers the requirements of communities, and those of the NPF and RSES.

Selected Type 5 (i) Alternative for the Plan: Alternative A.

Type 5 (i) alternatives are assessed against Strategic Environmental Objectives on Table 7.5.

Table 7.5 Assessment of Type 5 Alternatives against Strategic Environmental Objectives

Alternative (selected alternative for the Plan in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated	
	to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree
A. Designate Rural Areas under Strong Urban Influence/Pressure that require various criteria to be demonstrated and met in advance of planning permission being granted for a single dwelling for permanent occupation.	**PHH MA A C BFF S W CH L**		**PHH MA A C BFF S W CH L**	
B. Do not designate Rural Areas under Strong Urban Influence/Pressure and assess each planning application on its merits.		**PHH MA A C BFF S W CH L**		**PHH MA A C BFF S W CH L**

Type 5 (ii) Villages/Clusters/Nodes and Serviced Sites

- **Type 5 (ii) Alternative A:** Provide focus to and targeted policies/objectives for rural villages, clusters and nodes to act as a viable alternative to one-off housing in the open countryside.

  Alternative A, by providing focus to and targeted policy objectives for the rural villages, clusters and nodes would facilitate a viable alternative to one-off housing in the open countryside. Development within these settlements would be more likely to be served by infrastructure (including water services infrastructure) and more likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape. Development would be required to be subject to siting, design, protection of residential amenities and normal development management criteria, subject to the satisfactory provision of infrastructure and services and in keeping with the character of the settlement.

  The identification of rural villages, clusters and nodes to facilitate a choice in providing for the housing and community needs of rural areas is an important element of supporting a choice and mix of housing within Waterford. This alternative would facilitate this by way of identifying such locations, and setting out development boundaries within which development may take place.

- **Type 5 (ii) Alternative B:** Rural villages, clusters and nodes are included but there is no focus or no targeted provisions for these locations to act as a viable alternative to one-off housing in the open countryside

  Alternative B, by not providing a focus to and targeted policy objectives for rural villages, clusters and nodes would be less likely to provide a viable alternative to one-off housing in the open countryside. Development within the open countryside would be less likely to be served by infrastructure (including water services infrastructure) and less likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape. Alternative B would the least sustainable of these two alternatives and would be most harmful to the environment.

Identifying areas within existing villages and nodes to support clustering of residential development across rural Waterford is an important element of providing choice in the housing market outside of urban settlements, in a manner consistent, in principle, with the NPF and RSES. Alternative A is therefore preferred.

Selected Type 5 (ii) Alternative for the Plan: Alternative A.

Type 5 (ii) alternatives are assessed against Strategic Environmental Objectives on Table 7.6.

Table 7.6 Assessment[83] of Type 5 (ii) Alternatives against Strategic Environmental Objectives

Alternative (selected alternative for the Plan in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated	
	to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree
Alternative A: Provide focus to and targeted policies/objectives for rural villages, clusters and nodes to act as a viable alternative to one-off housing in the open countryside	**PHH MA A C BFF S W CH L**		**PHH MA A C BFF S W CH L**	
Alternative B: Rural villages, clusters and nodes are included but there is no focus or no targeted provisions for these locations to act as a viable alternative to one-off housing in the open countryside		**PHH MA A C BFF S W CH L**		**PHH MA A C BFF S W CH L**

7.3.2 Assessment of Type 6: Alternatives for Densities

Alternatives identified relating to densities comprise:

Alternative A: Application of a single standard residential density across all settlements.

The application of a low net singular residential density across the City and County would have the potential to push new development towards more environmentally sensitive lands that are less well-serviced and less well-connected, resulting in unnecessary potentially significant adverse effects on all environmental components.

The application of a singular high net residential density could result in a potential mis-alignment between the supply of zoned land to meet the projected demand for new housing. This could result in a misalignment between new development and essential services provision with associated potential for adverse effects on environmental components.

[83] The alternatives are evaluated using compatibility criteria in order to determine how they would be likely to affect the status of the existing environment and the SEOs. The SEOs and the alternatives are arrayed against each other to demonstrate which interactions would cause effects on specific components of the environment. Where the appraisal identifies an interaction with the status of an SEO the relevant SEO code is entered into the relevant column.

The interactions identified are reflective of likely significant environmental effects:

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 protection/management of the environmental component/issues to which the SEO relates.
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 a potential significant negative effect however these effects would be likely to be mitigated by measures which have been integrated into the Plan.

These effects include secondary, cumulative (see also Section 8.2), synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Alternative B: The Application of different densities at different locations, as appropriate, would provide for the most sustainable development, which would contribute towards environmental protection and management the most.

> Higher densities would be provided where sustainable transport mode opportunities are available and lower densities would be provided where constraints are presented by, for example, wastewater and water infrastructure constraints, cultural heritage designations or the local road network. This approach would contribute towards national and regional strategic outcomes including the efficient use of land, compact growth and the transition towards a low carbon and more climate resilient society.
>
> Alternative B would help to ensure compact, sustainable development within and adjacent to the existing built-up footprint and would conflict with the protection and management of environmental components the least. Alignment between new development and essential services provision would be most likely under Alternative B.

Taking cognisance of the range and diversity of settlements across the functional area of the development plan, and the settlement typology/ hierarchy, it is considered that Alternative B is the most sustainable option for delivering on the principles of compact growth, while facilitating placemaking, and the development of diverse rural areas a range of options for the housing market in terms of house type mix, tenure, design and cost, and delivering the Housing Strategy. Alternative B takes into account the objectives of the higher-level NPF and Southern RSES, and the need to comply with the densities set out in Ministerial Guidelines, including those related to *Sustainable Residential Development in Urban Areas (2009)* and *Urban Development and Building Heights (2018)*.

Selected Type 6 Alternative for the Plan: Alternative B.

Type 6 alternatives are assessed against Strategic Environmental Objectives on Table 7.7.

Table 7.7 Assessment of Type 6 Alternatives against Strategic Environmental Objectives

Alternative (selected alternative in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated	
	to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree
A. Application of a single standard residential density across all settlements		**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**
B. Application of different densities at different locations, as appropriate	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

7.3.3 Assessment of Type 8: Alternatives for Land Use Zoning

Alternatives for Land Use Zoning are assessed on Table 7.8.

Table 7.8 Assessment of Type 4 Alternatives against Strategic Environmental Objectives

Town	Alternative (selected alternatives in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated		Commentary
		to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree	
Waterford City & Suburbs	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the City and suburbs, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 City and suburbs and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Dungarvan/ Ballinroad	Alternative A: More Compact **see note below**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact **see note below**		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Note: The Selected Alternative for **Dungarvan/Ballinroad** in the Draft Plan was Alternative A "More Compact". However, the Members, through the Material Alterations selected a mix between Alternative A "More Compact" and Alternative B "Less Compact". This would not benefit the protection and management of the environment as well as Alternative A "More Compact" would.						

Town	Alternative (selected alternatives in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated		Commentary
		to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree	
Clonmel Environs	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of Clonmel Environs, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 Clonmel Environs and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Tramore	Alternative A: More Compact **see note below**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact **see note below**		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Note: The Selected Alternative for **Tramore** in the Draft Plan was Alternative A "More Compact". However, the Members, through the Material Alterations selected a mix between Alternative A "More Compact" and Alternative B "Less Compact". This would not benefit the protection and management of the environment as well as Alternative A "More Compact" would.						
Dunmore East	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.

Town	Alternative (selected alternatives in **bold**)	Likely to **Improve** status of SEOs		**Potential Conflict** with status of SEOs – likely to be mitigated		Commentary
		to a **Greater** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Greater** degree	
Portlaw	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Lismore	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.
Gaeltacht na nDéise	**Alternative A: More Compact**	**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**		By consolidating land use zoning and 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 consolidating the zoning and helping to avoid unnecessary sprawl of the Gaeltacht na nDéise, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary 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.
	Alternative B: Less Compact		**BFF PHH S MA A C CH L**		**BFF PHH S MA A C CH L**	By not consolidating land use zoning and 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 Gaeltacht na nDéise and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects.

7.4 Reasons for Selecting Chosen Alternatives

Selected alternatives for the Plan from each of the various types of alternatives that emerged from the planning/SEA process are indicated above.

These alternatives have been incorporated into the Plan having regard to both:

1. The environmental effects which are identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects.

Section 8 Evaluation of Plan Provisions

8.1 Introduction

This section provides an assessment of environmental effects using the information on the current state of the environment (provided in Section 4) and the Strategic Environmental Objectives (see Table 8.1) from implementation of the Plan.

The degree of significance of effects occurring cannot be fully determined at this level of decision making due to the lack of exact detail available with regard to the type or scale of development that will be permitted under the Plan. However, a strategic assessment can be undertaken.

Table 8.1 Strategic Environmental Objectives[84]

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	**BFF**	No net contribution to biodiversity losses or deterioration	• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species • Enhance biodiversity in line with the National Biodiversity Action Plan and its targets • To protect, maintain and conserve the City and County's natural capital
Population and Human Health	**PHH**	Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services • Safeguard the City and County's citizens from environment-related pressures and risks to health and well-being
Soil (and Land)	**S**	Ensure the long-term sustainable management of land	• Protect soils against pollution, and prevent degradation of the soil resource • Promote the sustainable use of infill and brownfield sites over the use of greenfield sites within the City and County • Safeguard areas of prime agricultural land and designated geological sites
Water	**W**	Protection, improvement and sustainable management of the water resource	• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • Ensure water resources are sustainably managed to deliver proposed regional and County growth targets in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals

[84] See also Section 5

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
Material Assets	**MA**	Sustainable and efficient use of natural resources	• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the City and County - this includes transport infrastructure • Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, solar, hydro, biomass, energy from waste and traditional fossil fuels • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes • Encourage the transition to a zero-carbon economy by facilitating the development of a grid infrastructure to support renewables and international connectivity. Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart-buildings, cities and grids
Air	**A**	Support clean air policies that reduce the impact of air pollution on the environment and public health	• To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
Climatic Factors	**C**	Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts	• To minimise emissions of greenhouse gasses • Integrate sustainable design solutions into the City and County's infrastructure (e.g. energy efficient buildings; green infrastructure) • Contribute towards the reduction of greenhouse gas emissions in line with national targets • Promote development resilient to the effects of climate change • Promote the use of renewable energy, energy efficient development and increased use of public transport
Cultural Heritage	**CH**	Safeguard cultural heritage features and their settings through responsible design and positioning of development	Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
Landscape	**L**	Protect and enhance the landscape character	To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

8.2 Cumulative Effects

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

There are two 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 (such as those identified under Section 4), 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 8.4 e.g. interrelationships between: human health and water quality; human health and air quality; human health and flood risk; and ecology and water quality.
- 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 Plan have been mitigated to the extent that the only residual adverse effects likely to occur as a result of implementation of the Plan are those which are identified under Table 8.2.

Other policies, plans and programmes that have been considered by the assessment of effects include those which are detailed under Section 2.6 (and associated Appendix I ''Relationship with Legislation, Plans and Programmes''), Section 4 and Section 5. Plans and programmes from various sectors will interact with the Plan, including those relating to land use planning. These plans and programmes are subject to their own environmental assessment requirements as relevant. Examples include:

- Land use policy, plans and programmes (e.g. the National Planning Framework, the Southern Regional Spatial and Economic Strategy, adjoining County Development Plans and Local Area Plans);
- Waterford City and County Local Economic and Community Plan and the Local Economic and Community Plans of adjoining counties;
- Energy policy, plans and programmes (e.g. Grid25 and associated Implementation Programme, Ireland's National Renewable Energy Action Plan 2010, Strategy for Renewable Energy 2012-2020, National Energy and Climate Plan 2021-2030 and the Renewable Electricity Policy and Development Framework);
- Climate related policy, plans and programmes (e.g. the National Climate Policy Position and Climate Action 2014, Low Carbon Development Act 2015, as amended, and White Paper Ireland's Transition to a Low Carbon Energy Future 2015, Climate Action Plan 2021, the National Adaptation Framework 2018, and the Waterford City and County Climate Change Adaptation Strategy 2019 and Climate Action Charter 2019);
- Water services, waste management, transport and energy infrastructure plans (e.g. Irish Water's Water Services Strategic Plan and associated Capital Investment Plan, Connacht-Ulster Regional Waste Management Plan and Transportation Policies and Strategies); and
- Environmental protection and management plans (e.g. River Basin Management Plan and Flood Risk Management Plans).

Potential cumulative/in combination effects include:

- Contributions towards reductions in travel related greenhouse gas and other emissions to air, reductions in consumption from non-renewables and associated achievement of legally binding targets (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating:
    - sustainable compact growth;
    - sustainable mobility/a shift from motorised transport modes to more sustainable and non-motorised transport modes; and
    - renewable energy development.

- 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 that 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 City and County border;
- Potential cumulative effects on flood risk by, for example, development of greenfield lands or obstruction of flood paths; and
- 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 is consistent with those described on Table 8.2. These plans and programmes are required to comply with environmental legislation and undergo SEA and AA as relevant comply with environmental legislation while projects are subject to EIA and AA, as relevant.

These effects would have the potential, if unmitigated, if they occurred, to result in changes in the environment within and beyond Waterford City and County.

A variety of the issues covered by the Plan provisions are regional issues which are considered: at Regional Assembly level, in the Southern RSES 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 Plan as a result of providing for new development within the City and County including those arising as a result of the cumulative provision of development in the wider Southern region would potentially conflict with a number of environmental components, across the wider Southern 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 while some will be mitigated by measures arising out of separate consent procedures.

8.3 Overall Evaluation

Waterford City and County Council have integrated various recommendations arising from the SEA, AA and SFRA processes into the Plan (see Section 9). Table 8.2 provides a detailed overall evaluation of the environmental effects arising from the Plan. The effects encompass all in-combination/cumulative effects arising from implementation of the Plan. The potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Plan are detailed as are residual effects, taking into account mitigation through both provisions integrated into the Plan – see Section 9.

Taking into account, *inter alia*, the detailed mitigation which has been integrated into the Plan (including that which is identified at Section 9), it has been determined that significant residual adverse environmental effects will not occur.

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 are taken from Table 8.1.

Table 8.2 Overall Evaluation – Effects arising from the Plan

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Southern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Biodiversity and Flora and Fauna	• Contribution towards protection of ecology (including designated sites, ecological connectivity, habitats) by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond. • Contribution towards the maintenance of existing green infrastructure and associated ecosystem services, listed species, ecological connectivity and non-designated habitats. • Contribution towards protection and/or maintenance of biodiversity and flora and fauna by contributing towards the protection of natural capital including the environmental vectors of air, water and soil. Biodiversity and flora and fauna includes biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species (including birds and bats), listed/protected species, ecological connectivity and non-designated habitats (including terrestrial and aquatic habitats), and disturbance to biodiversity and flora and fauna – including terrestrial and aquatic biodiversity and flora and fauna. • Sustains existing sustainable rural management practices – and the communities who support them – to ensure the continuation of long-established managed landscapes and the flora and fauna that they contain.	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; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.	• 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).	**BFF**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Southern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Population and Human Health	• Promotion of economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management. • Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond. • Contribution towards the protection of human health by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond. • Contributes towards protection of human health as a result of contributing towards the protection of natural capital including environmental vectors, including air and water.	• Potential adverse effects arising from flood events. • Potential interactions if effects arising from environmental vectors.	• Potential interactions with residual effects on environmental vectors – please refer to residual adverse effects under “Soil”, “Water” and “Air and Climatic Factors” below.	**PHH**
Soil	• Contribution towards the protection of soils (including those used for agriculture) and designated sites of geological heritage by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond. • Contribution towards the protection of the environment from contamination the highest standards of remediation, and where appropriate to consultations with the EPA and other relevant bodies, will be required to resolve any instances of environmental pollution created by contaminated land.	• Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands. • Potential for riverbank and coastal erosion.	• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces. • Riverbank and coastal erosion will continue to occur naturally over time and is likely to be enhanced by climate change.	**S**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Southern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Water	• Contribution towards the protection of water by facilitating development of lands (including those within and adjacent to the City and County settlements) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the City and County and beyond. • Contributions towards the protection of water resources including the status of surface and groundwaters and water-based designations. • Contribution towards flood risk management and appropriate drainage.	• Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology. • Increase in flood risk and associated effects associated with flood events.	• Any increased loadings as a result of development to comply with the River Basin Management Plan. • Flood related risks remain due to uncertainty with regard to extreme weather events – however such risks will be mitigated by measures that have been integrated into the Plan.	**W**
Material Assets	• Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond. • Contribution towards compliance with national and regional water services and waste management policies. • Contribution towards increase in renewable energy use by facilitating renewable energy and electricity transmission infrastructure developments. • Contribution towards limits in increases in energy demand from the transport sector by facilitating sustainable compact growth. • Contribution towards reductions in average energy consumption per capita including promoting sustainable compact growth, sustainable mobility, sustainable design and energy efficiency.	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Increases in waste levels. • Potential impacts upon public assets and infrastructure. • Interactions between agriculture and soil, water, biodiversity and human health - including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter.	• Exceedance of capacity in critical infrastructure risks remain, including due to uncertainty with regard to climate – however, such risks will be mitigated by: measures, including those requiring the timely provision of critical infrastructure, and compliance with the Water Framework Directive and associated River Basin Management Plan. • Residual wastes to be disposed of in line with higher-level waste management policies. • Any impacts upon public assets and infrastructure to comply with statutory planning/consent-granting framework.	**MA**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Southern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Air and Climatic Factors	• Contribution towards climate mitigation and adaptation by facilitating compact development of lands (including those within and adjacent to the City and County settlements) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the City and County and beyond. • In combination with other plans, programmes etc., contribution towards the objectives of the wide policy framework relating to climate mitigation and adaptation, and associated contribution towards maintaining and improving air quality and managing noise levels, including through measures relating to: o Sustainable compact growth; o Sustainable mobility, including walking, cycling and public transport; o Drainage, flood risk management and resilience; o Sectors including agriculture, forestry, energy and buildings; and o Sustainable design, energy efficiency and green infrastructure.	• Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives. • Potential conflicts between transport emissions, including those from cars, and air quality. • Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors. • Potential conflicts with climate adaptation measures including those relating to flood risk management.	• 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 compact growth and sustainable mobility. • Interactions between noise emissions and sensitive receptors. Various provisions have been integrated into the Plan to ensure that noise levels at sensitive receptors will be minimised.	**AC**
Cultural Heritage	• Contributes towards protection of cultural heritage elsewhere in the City and County by facilitating development within existing settlements. • Contributes towards protection of cultural heritage within existing settlements by facilitating brownfield development and regeneration.	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	• Potential effects on known architectural and archaeological heritage and unknown archaeology however, these will occur in compliance with legislation.	**CH**
Landscape	• Contributes towards protection of wider landscape and landscape designations by facilitating development within existing settlements.	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.	• Landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments that will occur in compliance with the Plan's landscape protection measures.	**L**

8.4 Instances whereby Environmental Considerations were not integrated into the Plan

The Plan, considered as a whole, contributes towards environmental protection and management and sustainable development and complies with various legislative requirements. This is identified throughout the SEA documentation.

Various Plan provisions that would contribute towards the sustainable development of the County would, at the same time, have the potential to conflict with the environment, were mitigation measures not taken into account. This is normal and mitigation measures have been integrated into the Plan to deal with these potential effects.

However, a number of alterations were adopted by the Elected Members as part of the Plan that are particularly internally inconsistent with the overall approach provided for by the Plan, including those which are identified on Table 8.3 and were advised against by the Plan-preparation/SEA process. Also included on Table 8.3 is advice that was provided by the SEA for consideration in advance of adoption of the Plan.

Table 8.3 Alterations Advised Against but Adopted (including:)

Material Alterations No's.	Commentary provided in advance of Plan Adoption	Mitigation Identified	Recommendation provided in advance of Plan Adoption
205, 211, 225, 284 and 305	Taking into account higher-level planning objectives, these alterations are not justified and it would not provide the most evidence-based framework for development. These alterations would not be consistent with established population targets and/or the proper planning and sustainable development of the County. As a result they would present additional, unnecessary and potentially significant adverse effects on various environmental components, including soil, water, biodiversity, air and climatic factors and material assets. For alterations relating to zoning, much of the zoning proposed is considered to be premature in the context of current population targets. Potentially significant adverse unnecessary effects, would be likely to include: • Effects on non-designated habitats and species • Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces • Increased loadings on water bodies • Conflict with efforts to maximise sustainable compact growth and sustainable mobility • Occurrence of adverse visual impacts Where such alterations are further from the centre of settlements, potentially significant unnecessary adverse effects would be likely to include: • Difficulty in providing adequate and appropriate waste water treatment as a result of zoning outside of established built development envelopes of settlements (At An Rinn,	• Taking into account higher-level planning objectives, these alterations are not justified and it would not provide the most evidence-based framework for development. • Protect the environment and contribute towards sustainable development.	Do not adopt as part of Draft Plan

Material Alterations No's.	Commentary provided in advance of Plan Adoption	Mitigation Identified	Recommendation provided in advance of Plan Adoption
	in particular, the Council have identified major network capacity issues and that pump station and network upgrades are required to deal with current loading) • Adverse impacts upon the economic viability of providing for public assets and infrastructure • Adverse impacts upon carbon emission reduction targets in line with local, national and European environmental objectives • Conflicts between transport emissions, including those from cars, and air quality • Conflicts between increased frequency of noise emissions and protection of sensitive receptors • Potential effects on human health as a result of potential interactions with environmental vectors		

8.5 Appropriate Assessment and Strategic Flood Risk Assessment

Stage 2 Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) have been undertaken alongside the preparation of the Plan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The AA assesses the effects of the Plan on European Sites designated for certain habitats and species. The conclusion of the AA is that the Plan will not affect the integrity of the Natura 2000 network[85].

SFRA is required by 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014. Recommendations from the SFRA have been integrated into the Plan.

Various policies and objectives have been integrated into the Plan through the SEA, SFRA and AA processes. The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA.

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

8.6 Integration of Climate Action into the Plan[86]

The Plan will contribute towards climate action in combination with:

- The Climate Action Plan that identifies 493 climate mitigation and/or adaptation actions, including: Action 214 Rollout of Social Housing National Retrofitting Programme in 2021 with retrofitted properties required to reach BER B2 or equivalent; Action 190 Ensure national, regional, and local planning frameworks encourage and facilitate the development of district heating where appropriate to facilitating compact urban development; and Action 78 Implement the National Planning Framework.
- The National Planning Framework, which has identified National Strategic Outcome Objectives 8 "Build Climate Resilience" and 9 "Support the transition to low carbon and clean energy" under National Strategic Outcome 8 "Transition to a Low Carbon and Climate Resilient Society".
- The Southern Regional Spatial and Economic Strategy that has identified various Regional Policy Objectives relating to climate action, including RPOs 87-107 under "Climate action and transition to a low carbon economy".

Climate Action is provided for throughout the Plan, including at Chapter 9 "Climate Action, Biodiversity and Environment" and subsections 4.10 "Climate Action and Jobs", 7.7 "Climate Resilient Housing" and 11.13 "Climate change and sustainability /energy efficiency".

Climate Mitigation Measures from the Plan encompass sectors including:

- Buildings
- Agriculture, Land Management and Forestry
- Transport
- Energy Production
- Minerals
- Resource Management

Climate Adaptation Measures from the Plan encompass sectors including:

- Buildings
- Agriculture, Land Management and Forestry
- Water Management
- Infrastructure, including flood defences
- Wildlife and biodiversity
- Economy and Tourism
- Human Health, Risk and Insurance

[86] This section is informed by content from Section 2.2.2 of the Plan

8.7 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 Plan will not affect the interrelationships between these components. The presence of significant interrelationships between environmental components is identified on Table 8.4.

Table 8.4 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		Yes	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								

8.8 Detailed Evaluation[87]

For an explanation of SEO codes e.g. **BFF**, **PHH**, **S**, **W**, etc. refer to Table 8.1 on page 96.

The following applies to each of the sub-sections 8.8.1 to 8.8.11 below:

The Plan is situated in a hierarchy of documents setting out public policy setting out public policy for, among other things, land use planning, infrastructure, sustainable development, tourism, environmental protection and environmental management, such as the National Planning Framework, the National Development Plan, the National Adaptation Framework, the Climate Action Plan and the Regional Spatial and Economic Strategy for the Southern Region (for additional detail please refer to Section 2.6 *"Relationship with other relevant Plans and Programmes"* in this report).

These other existing policies, plans etc. have been subject to their own environmental assessment processes, as relevant, and already provide for various measures that have been compiled into the Plan. The Plan aligns with these documents and will be incorporated into the review and preparation of these documents.

Lower tier plans and projects must be consistent and comply with the provisions of the Plan and of these other policies, plans etc. and will be subject to their own project level EIA and AA requirements as relevant. An assessment of cumulative effects is provided at Section 8.2 of this report.

[87] The Plan's provisions are evaluated using compatibility criteria in order to determine how they would be likely to affect the status of the existing environment and the SEOs. The SEOs and the Plan provisions are arrayed against each other in order to demonstrate which interactions would cause effects on specific components of the environment. Where the appraisal identifies an interaction with the status of an SEO the relevant SEO code is entered into the relevant column.

The interactions identified are reflective of likely significant environmental effects:

1. Interactions that would be likely to improve the status of a particular SEO ("Likely to Improve status of SEOs") would be likely to result in a significant positive effect on the protection/management of the environmental component/issues to which the SEO relates.
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated ("Mitigated Conflicts") would be likely to result in a potential significant negative effect however these effects would be likely to be mitigated by measures which have been integrated into the Plan.
3. Interactions with SEOs, the negative effects of which would be unlikely to be mitigated are identified as "Probable Conflict with status of SEOs – unlikely to be mitigated".

These effects include secondary, cumulative (see also Section 8.2), synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Part 1: Vision and Strategy

8.8.1 Chapter 1: Waterford and the Development Plan

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to the Plan's Vision, Aims and Waterford City MASP Strategic Goals. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of Chapter 1 against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

Chapter 1 would contribute towards sustainable development and the protection and management of the environment.

8.8.2 Chapter 2: Spatial Vision and Core Strategy

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to the Plan's Core Strategy Strategic Aims and Core Strategy Policy Objectives. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Spatial Vision and Core Strategy against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable

the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

New Local Area Plans (CS 08) would have to be subject to Screening for AA and SEA and/or AA and SEA processes as relevant.

The Plan's Spatial Vision and Core Strategy would contribute towards sustainable development and the protection and management of the environment, including through:

Core Strategy Strategic Aims

4. To require, where appropriate, all plans and projects to comply with the requirements of the Strategic Environmental Assessment Directive, the Habitats Directive, Water Framework Directive and Floods Directive. Protect the integrity all Natura 2000 sites, (p) NHA's and locally important Biodiversity Sites in Waterford.

8. Implement the Waterford City and County Council Climate Adaptation Strategy 2019 (as amended) and promote a climate resilient pattern of development and land uses which assists in achieving national climate change mitigation and adaption targets.

11. To enhance the sense of place throughout settlements in Waterford and deliver 10-minute neighbourhoods through enhanced pedestrian and cycle permeability and mixed land use planning.

Core Strategy Policy Objectives

CS 02 We will deliver positive change across Waterford, in support of the UN 2030 Agenda for Sustainable Development, and the Sustainable Development Goals.

CS 06 We will require, where appropriate, all plans and projects within Waterford to comply with the requirements of the Strategic Environmental Assessment Directive, the Habitats Directive, Water Framework Directive and Floods Directive.

CS 16 In addition to compliance with other policy objectives and development management standards of the development plan, development proposals for all land use types within rural settlements will be required to demonstrate that:

• The scale of a proposed housing development is consistent with the number of housing units appropriate to the class/ typology of settlement as set out in Section 2.9 and Table 2.1;
• The proposal is compatible with the context of the site in terms of character, scale and density;
• The proposal will contribute to the visual and general/residential amenity of the settlement and its built quality;
• The proposal avoids any transgression onto land used or intended for use as public amenity;
• The proposal is accompanied by a program for developing out the site in terms of access to public water/wastewater, innovative solutions to wastewater such as integrated constructed wetlands and other services along with a completion timeframe; and,
• The proposal will not prejudice the future development of land in its vicinity and the expansion of public amenities or community land uses such as schools.

Part 2: Waterford City and MASP Policy Objectives

8.8.3 Chapter 3: Waterford City and MASP

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to the Plan's Waterford City and the Metropolitan Area Strategic Plan. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Waterford City and MASP provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust,

better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

New Local Area Plans (W City 01 and W City 05) would have to be subject to Screening for AA and SEA and/or AA and SEA processes as relevant.

The Plan's Waterford City and MASP provisions would contribute towards sustainable development and the protection and management of the environment.

Part 3: City and County Policy Objectives

8.8.4 Chapter 4: Economy, Tourism, Education and Retail

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Economy, Tourism, Education and Retail. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Economy, Tourism, Education and Retail provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

New Plans (ECON 17 SIFP for Waterford Estuary) would have to be subject to Screening for AA and SEA and/or AA and SEA processes as relevant.

ECON21 supports air access from regional airports, where it would contribute towards the proper planning and sustainable development of Waterford and comply with all environmental legislation and policies and objectives contained within this Plan and higher-level planning documents, including the National Planning Framework and Southern Regional Spatial and Economic Strategy.

Fishing and aquaculture together with related development (such as infrastructure and buildings in riverbank locations) has the potential to adversely affect various environmental components including biodiversity and flora and fauna, water and human health.

Agriculture is essential to the sustenance of rural populations and associated existing sustainable rural management practices which can often sustain biodiversity. Agriculture is however a source of waste and emissions of ammonia from agricultural activities (e.g. manure handling, storage and spreading) and the production of secondary inorganic particulate matter can have significant effects on water, soil, water, biodiversity and human health.

An extractive industry is essential for sustainable development however it presents the potential for significant adverse environmental effects to arise with regard to all environmental components, if unmitigated.

This Chapter contributes towards the provision of land use activities and developments relating to tourism – and would be likely to contribute towards an increase in the number and dwell time of visitors and associated potential adverse effects. Such effects would include in-combination effects arising from services and infrastructure to service development, including tourism. Examples may include developments/operation of developments relating to water services, transport, energy, access or accommodation. The mitigation of potential adverse effects arising would be contributed towards by Plan provisions including those relating to infrastructure capacity, visitor management, green infrastructure and ecosystem services – see also provisions included under other Chapters including "Chapter 10: Landscape, Coast/ Marine and Blue Green Infrastructure".

The Plan's Economy, Tourism, Education and Retail provisions would contribute towards sustainable development and the protection and management of the environment, including through, for example provisions relating to Marine, SIFP for Waterford Estuary Energy Efficiency and SEVESO III Sites.

8.8.5 Chapter 5: Transport and Mobility

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Transport and Mobility. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Transport and Mobility provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

Many of the provisions in this Chapter primarily contribute towards maximising sustainable mobility and associated interactions with emissions to air (including noise and greenhouse gas emissions), energy usage, air quality and human health. The facilitation of journeys by car, in particular, would give rise to emissions to air. The Plan references various projects that are provided for by higher level plans and programmes. New roads and other transport infrastructure projects that are not already provided for by existing plans/programmes or are not already permitted, are required by Corridor and Route Selection Process (after TRANS 48) to be subject to feasibility assessment.

The development of new greenways, blueways, cycleways and walkways, including those between Waterford City and County, adjoining counties and beyond has the potential to contribute towards sustainable mobility and a better management of movements in sensitive areas, thereby benefitting various environmental components including habitats at certain locations. The development of these projects, however, presents a variety of potentially adverse environmental effects that would, if unmitigated, have the potential to arise from both the construction and operation of such developments and/or their ancillary infrastructure. These types of infrastructure are often constructed in ecologically and visually sensitive areas adjacent to the banks of rivers and streams or along the coast. Potential adverse effects would be mitigated both by measures which have been integrated into the Plan which provide for and contribute towards environmental protection, environmental management and sustainable development (including those identified at Section 9 of this report) and by measures arising from lower tier assessments (including those for the preparation of lower tier plans and projects). Projects would need to be subject to normal planning and environmental assessment processes, as well as complying with the Corridor and Route Selection Process (after TRANS 48). The development of green infrastructure can achieve synergies with regard to the provision of open space amenities, sustainable mobility, the sustainable management of water, the protection and management of biodiversity, the protection of cultural heritage and the protection of protected landscape sensitivities.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

8.8.6 Chapter 6: Utilities Infrastructure, Energy and Communication

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Utilities Infrastructure, Energy and Communication. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Utilities Infrastructure, Energy and Communication provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

Provisions relating to water supply and wastewater and surface water drainage would, by protecting water resources, providing safe drinking water and appropriately treating waste water, contribute towards the protection of various environmental components including: human health, biodiversity and flora and fauna, the status of waters, flood risk management and soil. There would be potential for significant adverse environmental effects upon various environmental components to arise during construction of water services infrastructure. Such potential significant adverse effects could also arise during operation: the protection of human health, biodiversity and flora and fauna and the status of waters, could all be conflicted with by outflows and abstractions.

Flood risk management provisions would contribute towards the protection and management of human health, biodiversity, flora and fauna, cultural heritage, water status and existing infrastructure and services. Flood risk management infrastructure (if required) has the potential to result in significant adverse environmental effects during construction and operation on most environmental components. These types of infrastructure are often constructed in ecologically and visually sensitive areas and adjacent to the banks of rivers and streams and along the coast. Potential adverse effects will be mitigated both by measures which have been integrated into the Plan (including those identified at Section 9 of this report) and by measures arising from lower tier assessments.

Various provisions in this Chapter contribute towards the framework for the development of energy. These Policies Objectives would contribute towards achieving various government objectives and targets including those relating to climate mitigation and reducing greenhouse gas emissions and increasing the amount of energy to be consumed from renewable sources. The development of renewable energy would have the potential to adversely impact upon the environment, if unmitigated. Further general commentary on the types of potential effects arising from a range of renewable energy types is provided below.

Wind Energy
Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets
Potential Negative Effects, if unmitigated:

- Potential impacts include those associated with construction and operation of the turbines and ancillary facilities and infrastructure (including roads and electrical infrastructure)
- Potential human health impact: shadow flicker, noise, and impacts arising from landslides
- Potential impact upon designated and non-designated biodiversity and flora and fauna including birdlife and marine habitats
- Potential interactions leading to change in structure of soil and geology and changes to drainage
- Potential impacts on water status during construction – this could interact with drinking water sources and biodiversity
- Potential impacts upon the context of protected archaeological and architectural heritage – including the context of this heritage – as well as unknown archaeological heritage
- Potential impacts upon traffic during construction due to transportation of turbine components
- Changes to the character of areas would be likely to occur however visual impacts would depend on various factors including the size, number and spacing of the turbines, perception of the relevant areas and any cumulative effect arising from multiple wind farms

Solar Energy
Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets
Potential Negative Effects, if unmitigated:

- Potential impacts on architectural heritage – including the context of this heritage – at micro scale
- Potential impacts on habitats and species and micro scale
- Large scale installations may have visual impacts – these would depend on perception of the relevant area -, however these are unlikely to be provided for

Bio-Energy
Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets. Can provide for the use of agricultural and other wastes
Potential Negative Effects, if unmitigated:

- Potential impact upon designated and non-designated biodiversity and flora and fauna arising from changes in vegetation. Soil structure may also be impacted upon.
- Changes in farming practices may lead to changes in drainage and runoff which could impact upon biological and chemical status of waters - - this could interact with drinking water sources and biodiversity
- Potential human health impact: odour and noise from operation of plants
- Potential impacts upon traffic during operation due to transportation of fuel to plants
- Fuels derived from bio-mass still produce emissions however these are less than those derived from fossil fuels
- Changes to the land cover of areas could occur however visual impacts would depend on perception of the relevant area;
- Biomass plants may have visual impacts - these would depend on perception of the relevant area

Hydro-Energy
Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets
Potential Negative Effects, if unmitigated:

- Depending on the scale and location of the development there is potential for impacts to occur on biodiversity, in particular aquatic biodiversity
- Potential to impact upon the morphological, biological and chemical status of waters - this could interact with drinking water sources (in freshwater) and biodiversity
- Potential interactions leading to change in structure of soil and geology and sediment regimes in off-shore areas
- Operation could impact upon flood risk elsewhere
- Potential impacts upon archaeological heritage or nearby architectural heritage, including context
- Changes to the character of locations may occur however visual impacts would depend upon, inter alia, the size of the installation, ancillary facilities and the perception and visibility of the relevant area

Geothermal Energy
Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets.
Potential Negative Effects, if unmitigated:

- Potential impacts upon the status of waters and ecology contained within, especially arising from changes in the temperature of groundwater which can impact upon the structure and ecology of the aquifer and any dependent surface waters - this could interact with drinking water sources
- Potential interactions leading to change in structure of soil and geology
- Potential impacts upon archaeology, including unknown underground archaeology
- Potential impacts upon on site water services
- Potential impacts upon context of archaeological and architectural heritage arising from surface installation

Information Communications Technology infrastructure has the potential to result in significant adverse effects and require significant levels of energy to operate. Information and Communication Infrastructure provisions would ensure that telecommunications structures are located to minimise and /or mitigate any adverse impacts on communities, public rights of way and the built or natural environment.

Waste Management provisions incorporate circular economy principles that are supported in the RSES.

Construction and Environmental Management Plans would primarily contribute towards the protection and management of the environment, with all environmental components benefitted.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 “Mitigation Measures” of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

8.8.7 Chapter 7: Housing and Sustainable Communities

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Housing and Sustainable Communities. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Housing and Sustainable Communities provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

Alternatives relating to Rural Areas have been identified and considered as part of the Plan-preparation and SEA processes. The Plan has integrated the most sustainable and environmentally responsible alternatives for rural areas – refer also to Sections 6 and 7.

In certain locations, due to the soils and drainage, certain waste water treatment systems do not provide the necessary level of treatment and other options should be investigated such as wetland systems or clusters of rural serviced sites. In other areas various systems will work subject to the relevant requirements.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

The Plan's Housing and Sustainable Communities provisions would contribute towards sustainable development and the protection and management of the environment.

8.8.8 Chapter 8: Placemaking

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Placemaking. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Placemaking provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust,

better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc – including the Southern RSES and associated MASP. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

The Plan's Placemaking provisions would contribute towards sustainable development and the protection and management of the environment.

8.8.9 Chapter 9: Climate Action, Biodiversity and Environment

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Climate Action, Biodiversity and Environment. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary:

The assessment of the Plan's Climate Action, Biodiversity and Environment provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The focus of this Chapter is the protection and management of the City and County's environment (including biodiversity, water, soil and landscape) and contributing towards climate action.

NH 03 integrates SEA monitoring requirements into the Plan.

Forestry and access to forestry for amenity would contribute towards the sustenance of rural populations and can improve the biodiversity value of the countryside. Depending on how it is developed, forestry has the potential to adversely affect various environmental components including biodiversity and flora and fauna, water and human health, the landscape.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

8.8.10 Chapter 10: Landscape, Coast/ Marine and Blue Green Infrastructure

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Landscape, Coast/ Marine and Blue Green Infrastructure. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary:

The assessment of the Plan's Landscape, Coast/ Marine and Blue Green Infrastructure provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The focus of this Chapter is the protection and management of the City and County's landscape, coastal/marine areas and blue and green infrastructure.

The provisions contained in the Plan for the protection of coastal assets (settlement, infrastructural, ecological, cultural, recreational and amenity) will help to facilitate the orderly development of the City and County.

Coastal defences and protection measures have the potential to result in significant adverse environmental effects during construction and operation on most environmental components. These types of infrastructure are often constructed in ecologically and visually sensitive areas along the coast.

The development of new greenways, blueways, cycleways and walkways, including those between Waterford City and County, adjoining counties and beyond has the potential to contribute towards sustainable mobility and a better management of movements in sensitive areas, thereby benefitting various environmental components including habitats at certain locations. The development of these projects, however, presents a variety of potentially adverse environmental effects that would, if unmitigated, have the potential to arise from both the construction and operation of such developments and/or their ancillary infrastructure. These types of infrastructure are often constructed in ecologically and visually sensitive areas adjacent to the banks of rivers and streams or along the coast. Potential adverse effects would be mitigated both by measures which have been integrated into the Plan which provide for and contribute towards environmental protection, environmental management and sustainable development (including those identified at Section 9 of this report) and by measures arising from lower tier assessments (including those for the preparation of lower tier plans and projects). Projects would need to be subject to normal planning and environmental assessment processes, as well as complying with the Corridor and Route Selection Process (after TRANS 48). The development of green infrastructure can achieve synergies with regard to the provision of open space amenities, sustainable mobility, the sustainable management of water, the protection and management of biodiversity, the protection of cultural heritage and the protection of protected landscape sensitivities.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

Provisions that would contribute towards sustainable development and the protection and management of the environment, include:

G 01 We will contribute towards the appropriate protection and maintenance of the character, integrity and conservation value of features or areas of geological interest. We will protect from inappropriate development the scheduled list of Geological Heritage Sites detailed in Appendix 11.

G 02 We will promote and support the geological heritage of the UNESCO Copper Coast Geopark and provide for the sustainable management of this coastal amenity.

BGI 16 Visitor and Habitat Management

Where relevant, the Council and those receiving permission for development under the Plan shall seek to manage any increase in visitor numbers and/or any change in visitor behaviour in order to avoid significant effects, including loss of habitat and disturbance. Management measures may include ensuring that new projects and activities are a suitable distance from ecological sensitivities. Visitor/Habitat Management Plans will be required for proposed projects as relevant and appropriate.

BGI 17 Increases in Visitor Numbers to Semi-Natural Areas

Seek to manage any increase in visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that new any projects, such as greenways, are a suitable distance from ecological sensitivities, such as riparian zones.

8.8.11 Chapter 11: Heritage

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Provisions of this Chapter include those relating to Heritage. For more details, please refer to the Plan.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Heritage provisions against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The provisions in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The focus of most of the provisions in this Chapter is the protection and management of the City and County's built heritage (including archaeological heritage and architectural heritage).

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

Volume 2: Development Management Standards

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Development Management Standards are provided under the following headings: Common Principles; Residential development; Residential density; Part V Housing requirements; Residential development design standards; Parking standards; Residential miscellaneous; Non-residential development; Rural development; Road access policy; Other development considerations; Architectural Conservation Areas; and Zoning and land use.	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Development Management Standards against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

The focus of most of the standards in this Chapter is the protection and management of the City and County's environment and the achievement of proper planning and sustainable development.

The standards in this Chapter of the Plan would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

Various Development Management Standards in this Chapter of the Plan would contribute towards sustainable development and the protection and management of the environment.

Land Use Zoning/Settlement Maps

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs – unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Land use zoning is provided for by the Plan for: • Waterford City & Suburbs • Dungarvan/Ballinroad • Clonmel Environs • Tramore • Dunmore East • Portlaw • Lismore	**BFF PHH S W MA A C CH L**		**BFF PHH S W MA A C CH L**	

Commentary

The assessment of the Plan's Land Use Zoning against Strategic Environmental Objectives (SEOs BFF, PHH, S, W, MA, A, C, CH and L) is consistent with the:

- Environmental effects detailed under subsections 8.2 to 8.7 of this report; and
- Assessments of the selected alternatives for the Plan provided at Section 7 of this report.

Implementing the Plan will help to direct incompatible development away from the most sensitive areas in the City and County and to focus on directing: compact, sustainable development within and adjacent to the existing built-up footprint of the City and County's towns and villages; and sustainable development elsewhere, including in the rural area of the County. Development of areas within and adjacent to the existing built-up footprint, which are generally more robust, better serviced and better connected, will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation. Compact development can be accompanied by placemaking initiatives to enable the City and the County's settlements to become more desirable places to live – so that they can sustainably accommodate new residents and maintain and improve services to existing and future communities. Compatible sustainable development in the City and County's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

Land use zoning provisions would contribute towards the Statutory consent granting and decision-making framework for land use developments and activities, and sustainable development of the City and County, in combination with other Plan provisions and other plans, programmes, strategies, etc. Potential adverse environmental effects arising from land use development and activities include in-combination effects arising from services and infrastructure to service development, for example those relating to water services, transport and energy.

Environmental considerations were integrated into the land use zoning through an interdisciplinary approach involving Planners and environmental specialists. Zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF and Southern RSES. The detailed Plan preparation process undertaken by the Planning Department combined with specialist seeks to facilitate zoning that will help to avoids inappropriate development being permitted in areas of elevated sensitivity, such as in areas at risk of flooding or ecological sensitivity;

- The detailed Plan preparation process undertaken by the Planning Department combined with specialist input from the SEA and AA process facilitated zoning that avoids impacts upon sensitive ecology and European Sites. The AA concludes that the Plan, including land use zoning will not affect the integrity of the Natura 2000 network of European Sites[88].
- The detailed Plan preparation process undertaken by the Planning Department combined with specialist input from the SFRA process facilitated zoning that avoids inappropriate development being permitted in areas of high flood risk.
- The planning team also took into account other environmental considerations including sustainable mobility and sensitivities relating to cultural heritage, landscape and water, as well as taking into account overlay mapping of environmental sensitivities (see County level mapping at Figure 4.24 on page 71).

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

Where reasonable alternatives in relation to the application of land use zoning were identified by the Planning Team as being available these were considered by the iterative Plan-preparation/SEA process (see Sections 6 and 7 of this report).

There are a wide range of land use types identified under most of the Land Use Zoning Objectives. Proposals for development will need to demonstrate compliance with the various written provisions of the Plan, as relevant, including those relating to environmental protection and management. Environmental considerations, such as those related to elevated levels of flood risk or ecological sensitivities may limit the types of uses that may be possible at certain sites. Land use zoning provisions will contribute towards the protection and management of the environment.

The SEA process that has been undertaken alongside the preparation of the Plan has brought about various changes to the emerging Plan through an iterative process. Some of these measures are reproduced under Section 9 "Mitigation Measures" of this report. By integrating SEA recommendations into the Plan, Waterford City and County Council is helping to ensure that:

- The potential significant adverse effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are avoided, reduced or offset; and
- The beneficial environmental effects of implementing the Plan, in combination with implementation of other provisions from the Plan and other plans, programmes, etc., are maximised.

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 Plan. Various environmental sensitivities and issues have been communicated to the Council through the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. By integrating all related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation was achieved through the:

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

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

Far in advance of both the submission of the pre-Draft Plan to the Elected Members for approval, the placing of the Draft Plan on public display and the adoption of the Plan, Waterford City and County Council undertook various works in order to inform the preparation of the Plan.

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

Strategic work undertaken by the Council includes background work in relation to Plan Strategies and other provisions for a variety of sectors, including:

- Economy, Tourism, Education and Retail;
- Transport and Mobility;
- Utilities Infrastructure, Energy and Communication;
- Housing and Sustainable Communities;
- Placemaking;
- Climate Action, Biodiversity and Environment;
- Landscape, Coast/ Marine and Blue Green Infrastructure; and
- Heritage.

9.3 Consideration of Alternatives

Although strategic alternatives in relation to the content of the Plan were significantly limited for the Plan (see Section 6), as part of the Plan preparation/SEA process, the Council considered a number of alternatives for the Plan.

These alternatives were assessed by the SEA process (see Section 7) and the findings of this assessment informed the selection of preferred alternatives, facilitating an informed choice with respect to the type of Plan that was prepared and placed on public display.

9.4 Integration of environmental considerations into Zoning of the Plan

Environmental considerations were integrated into the Plan's zoning through an interdisciplinary approach.

Zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF and Southern RSES.

The detailed Plan preparation process undertaken by the Planning Department combined with specialist seeks to facilitate zoning that will help to avoids inappropriate development being permitted in areas of elevated sensitivity, such as in areas at risk of flooding or ecological sensitivity. Various provisions have been integrated into the Plan that provide for flood risk management and ecological protection and management at project level.

Also taken into account were environmental sensitivities relating to ecology, cultural heritage, landscape and water, as well as the overlay mapping of environmental sensitivities.

9.5 Integration of individual SEA, AA and SFRA provisions into the text of the Plan

Various provisions have been integrated into the text of the Plan through the Plan-preparation and SEA, SFRA and AA processes. Both the Planning and the assessment teams contributed towards the mitigation which was developed over multiple iterations and was informed by, inter alia, various communications through the SEA, AA and SFRA processes.

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

Table 9.1 Integration of Environmental Considerations into the Plan

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
Various – see below	Various – see below	**Core Strategy Strategic Aims** 4. To require, where appropriate, all plans and projects to comply with the requirements of the Strategic Environmental Assessment Directive, the Habitats Directive, Water Framework Directive and Floods Directive. Protect the integrity all Natura 2000 sites, (p) NHA's and locally important Biodiversity Sites in Waterford. 8. Implement the Waterford City and County Council Climate Adaptation Strategy 2019 (as amended) and promote a climate resilient pattern of development and land uses which assists in achieving national climate change mitigation and adaption targets. 11. To enhance the sense of place throughout settlements in Waterford and deliver 10 minute neighbourhoods through enhanced pedestrian and cycle permeability and mixed land use planning. **Core Strategy Policy Objectives** CS 06 We will require, where appropriate, all plans and projects within Waterford to comply with the requirements of the Strategic Environmental Assessment Directive, the Habitats Directive, Water Framework Directive and Floods Directive. **Waterford City and MASP Policy Objectives** W City 26 We will ensure that the growth of the city takes place in an infrastructure led manner that is Transport-Orientated and sustainable in terms of integrated land use and transportation planning and which reduces congestion, air pollution and enhances the quality of the urban environment... UTL 21 Construction and Environmental Management Plan Construction Environment Management Plans shall be prepared in advance of the construction of relevant 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, including compliance with 'Best Practice Guidelines for the preparation of Resource Management Plans for Construction & Demolition Waste Projects' EPA: 2021, (or any final updates thereof); 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; and q. details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity, including bats. **Corridor and Route Selection Process** New roads and other transport infrastructure projects (including greenways, blueways and cycleways) referred to by this Plan that are not already provided for by plans/ programmes other than the City and County Development Plan or are not already permitted, are subject to the undertaking of feasibility assessment, taking into account planning need, environmental sensitivities as identified in the SEA Environmental Report and the objectives of the Plan relating to sustainable mobility. Where feasibility is established, a Corridor and Route Selection Process will be undertaken where appropriate, for relevant new road infrastructure in two stages: Stage 1 – Route Corridor Identification, Evaluation and Selection; and Stage 2 – Route Identification, Evaluation and Selection.
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,	**Regulatory Framework and Decision Making Policy Objectives** ENV 01 Through implementation of the development plan we will cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management, including compliance with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations. ENV 02 Lower levels of decision making and environmental assessment should consider the sensitivities identified in the SEA Environmental Report that accompanies the Plan, including the following: • Special Areas of Conservation and Special Protection Areas;

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
	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; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats.	• Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses, areas of semi-natural habitat such as linear woodlands etc); • Natural Heritage Areas and proposed Natural Heritage Areas; • Areas likely to contain a habitat listed in Annex 1 of the Habitats Directive; • Entries to the Record of Monuments; • Entries to the Record of Protected Structures; • Architectural Conservation Areas; and, • Landscape/amenity designations. ENV 03 The Council shall, in conjunction with the Regional Assembly and other sources as relevant, implement the monitoring programme as set out in the SEA Environmental Report and Statement. This will include the preparation of stand-alone SEA Monitoring Reports: 1. To accompany the report required of the manager under section 15(2) of the Act, including information in relation to progress on, and the results of, monitoring the significant environmental effects of implementation of the development plan; 2. On the significant environmental effects of implementing the Plan, in advance of the beginning of the review of the next Plan. **Regulatory Framework and Climate Change Policy Objectives** CA 01 To support and implement the policies of the Waterford Climate Adaptation Strategy in collaboration with Waterford Climate Action Team the Climate Action Regional Office (CARO), and review/replace the strategy pursuant to the provisions of the Climate Action Plan 2021 and Low Carbon Development Act. **Flood Management Policy Objectives** FM 01 Waterford City & Council will work with the OPW, LAWPRO and other agencies at a catchment-level to identify any measures, such as natural water retention measures, that can have benefits for the Water Framework Directive, flood risk management and biodiversity objectives. FM 02 Waterford City & Council will protect floodplains of river catchments in the County and retain them for their flood protection and natural heritage values. **Biodiversity Policy Objectives** BD 01 We will protect and conserve all sites designated or proposed for designation as sites of nature conservation value (Natura 2000 Network, Ramsar Sites, NHAs, pNHAs, Sites of Local Biodiversity Interest, Geological Heritage Sites, TPOs) and protect ecological corridors and networks that connect areas of high conservation value such as woodlands, hedgerows, earth banks and wetlands. We will contribute towards the protection and enhancement of biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, the coastline, geological and geo-morphological systems, other landscape features, natural lighting conditions, 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. BD 02 In support of the All-Ireland Pollinator Plan we will seek to maintain and enhance Waterford's biodiversity in favourable conservation condition so that environmental resilience and net gain in biodiversity enhancement and creation are achieved during implementation of this plan. BD 03 All proposed development will be considered in terms of compliance with the standards and legal requirements of the following where they apply; • Appropriate Assessment of Plans and Projects in Ireland-Guidance for Planning Authorities Department of Housing, Local Government and Heritage (2021). • NRA Guidelines on Ecological Impact Assessment (2009) • All-Ireland Pollinator Plan (2021) • Planning for Watercourses in the Urban Environment (2020) • Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. **Natural Heritage N2K Network Policy Objectives** BD 04 Appropriate Assessment All projects and plans arising from this Plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and subsequent Appropriate Assessment where necessary, that: 1. The plan or project will not give rise to significant direct, indirect or secondary effects on the conservation objectives of any European site (either individually or in combination with other plans or projects); or 2. The plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or 3. The plan or project will have an adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000. BD 05 Protection of European Sites Projects giving rise to adverse effects on the integrity of European sites (cumulatively, directly or indirectly) 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

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		not be permitted on the basis of this plan except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place BD 06 Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for European sites involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans. The Local Authority support the preparation and implementation of management plans for the conservation of Natura 2000 sites, pNHAs and Sites of Local Biodiversity as per appropriate. **Biodiversity Assessment Policy Objectives** BD 07 We will protect plant and animal species and habitats which have been identified by the EU Habitats Directive (1997), EU Bird Directive (1979), Wildlife Act (1976) and Wildlife (Amendment) Act 2000 and the Flora Protection Order (2015) and ensure development does not impact adversely on wildlife species or the integrity and habitat value of the site. BD 08 We will assess all proposed developments at each level of the development planning process from City & County Development Plan, Local Area Plan to project level to determine potential for significant effects on the conservation objectives and /or adverse impact on the integrity of the Natura 2000 network and ensure that the requirements of Articles 6(3) and 6(4) of the Habitats Directive are fully satisfied. BD 9 We will ensure a sufficient level of information is provided in development applications to enable a fully informed assessment of impacts on biodiversity to be made. Ecological impact assessments submitted in support of development proposals shall be carried out by appropriately qualified professionals and ecological survey work carried out at optimal survey time to ensure accurate collation of ecological data. **Sites of Biodiversity Value Policy Objectives** BD 10 We will prevent unnecessary fragmentation and promote integration of existing green infrastructure such as trees, woodlands, hedgerows, earth banks and wetlands in the design of new development. Proposed development will be encourage to retain and create green corridors within and between built up urban areas along with areas that are not subject to public access so as to promote wildlife habitat value. BD 11 We will mitigate potential adverse impacts on existing biodiversity and green infrastructure in development proposals through requirement for biodiversity enhancement measures such as habitat creation, pollinator friendly landscaping schemes and or nesting boxes for pollinators, birds and mammals. BD 12 We will continue to develop the broader network of habitats through habitat mapping and management planning in collaboration with other agencies to record the range of habitats and network of ecological corridors and integrate this information in the development planning process. BD 13 We will prevent unnecessary noise and light disturbance to wildlife habitats and species by requesting Noise Impact Assessments and Lighting Plans to support development proposals so that wildlife friendly lighting specifications and avoidance of unnecessary noise are incorporated in early design stage of development schemes. BD 14 To promote sustainable and creative proposals in lighting and display technologies. All external lighting should be down lighting and should be time limited where possible. Lighting should be avoided in sensitive wildlife areas and light pollution avoided. All external light proposals should be accompanied by a light pollution study and deviations to the objective will only be considered where the applicant can clearly show that the proposed light solution would result in a more sustainable solution. **Wetland Policy Objectives** BD 15 We will ensure that Waterford's floodplains, wetlands and watercourses are retained for their biodiversity and flood protection values and maintain good ecological status of wetlands and watercourses in support of the provisions of the Water Framework Directive and Ramsar Convention. BD 16 We will protect wetland sites listed in Appendix A11 and other wetlands that may be identified of biodiversity value from infilling and other developments that may affect the biodiversity value of these sites. BD 17 The preservation of riparian corridors is a requirement for the protection of aquatic habitats and facilitation of public access to waterways. Development proposals will be required to avoid culverting of river channels while maintaining a buffer zone of at least 15m between the development works and the top of the riverbank. We will consult with Inland Fisheries Ireland and LAWPRO on the establishment and protection of riparian habitats where appropriate. **Drainage or Reclamation of Wetlands** BD 18 We 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 applications for permission would need to be supported by an Appropriate Assessment where necessary. **Peatlands** BD 19 We will support the implementation of any relevant recommendations contained in the National Peatlands Strategy 2015. Developments sited on peatlands have the potential to increase overall carbon losses, potentially undermining expected carbon savings (in the case of renewable energy developments) and damaging rare habitats of European importance. It is recommended that when developing project proposals for developments on peatlands assessments are undertaken that consider: • Peatland stability; • Carbon emissions balance; and • Hydrology and Ecology. **Hedgerow Policy Objectives** BD 20 To protect hedgerows in all new developments, particularly species rich roadside and townland boundary hedgerows, such features should be incorporated into the open space provisions at the concept design stage. There will be a presumption against the removal of hedgerows however where their removal is unavoidable replacement planting shall involve establishment of new hedgerows with native species of local provenance and that support pollinating species.

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		Trees & Woodlands Policy Objectives BD 21 We will preserve and enhance the amenity and biodiversity value of the County and City by preserving as far as possible trees, woodlands and hedgerows and will consider Tree Preservation Orders in order to protect trees of significance throughout the City and County. Existing TPOs are listed in Appendix 11. Trees of Special Amenity Value are listed in Appendix 11. BD 22 To implement the Waterford City and County Tree Management Strategy 2021 and review as appropriate. BD 23 Where development proposals require felling of mature trees a comprehensive tree survey carried out by a suitably qualified arborist shall be submitted assessing the condition, ecological and amenity value of the treestock proposed for removal and mitigation planting and management scheme. We will seek in all cases to ensure when undertaking development or when permitting development that the loss of or damage to existing trees is minimised. BD 24 To ensure when planning to undertake development or when considering the approval or authorisation of development that adequate information to assess the impact of the proposed development on existing trees, including tree surveys and planting and management schemes, is provided and that the protection, preservation and management of existing trees of amenity value, and the implementation of a planned planting and management scheme, are provided for. BD 25 We will continue to enhance our public realm and general amenity of the City and County through the continued maintenance and provision of trees in the urban environment with a view to providing continuity of tree cover where possible throughout our urban centres and promoting the use of native species where possible, with varied species and age distribution. BD 26 We will carry out an audit of all trees of special amenity value and TPOs, as listed in Appendix 11,, with a view to updating same. **Forestry Policy Objectives** F 01 We will encourage the replanting and extension of woodland cover, in particular mixed forests and broadleaf forests, in order to ensure the preservation and enhancement of the arboreal landscape in the County F 02 We will support the economic, recreational and carbon sequestration potential of forestry. Forestry as a land use and its ancillary development will be encouraged in appropriate locations subject to such development not impacting on biodiversity/protected species such as Freshwater Pearl Mussel, interfering with significant views or prospects or being unduly obtrusive in the landscape. F 03 We will promote a greater mix of species in Forestry Plantations and to encourage greater structural and spatial diversity in plantation design and enhanced biodiversity and habitat value. We will facilitate afforestation in appropriate locations in co-operation with the Forest Service and Coillte and in accordance with the principles of Sustainable Forest Management codes of best practice and the Waterford Climate Adaptation Strategy and updates of these. F 04 We will co-operate with landowners, Coillte and the Forest Service in promoting greater public access and recreational use of state and privately owned forests in Waterford. F 05 To ensure that linear felling of trees is not encouraged in exposed or scenic areas and also promote phased rather than clear felling. **Invasive Species Policy Objectives** BD 27 We will support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control and manage the spread of non-native invasive species on land and water. Where the presence of non-native invasive species is identified at the site of any proposed development or where the proposed activity has an elevated risk of resulting in the presence of these species, details of how these species will be managed and controlled will be required. Where development is approved for sites containing known invasive species, we will consider, where appropriate, the use of conditions for control and removal of invasive species. BD 28 We will promote awareness of invasive species and appropriate management, and work with other agencies to address the issue. **Blue Green Infrastructure Policy Objectives** BGI 01 To conserve, manage and enhance the natural heritage, biodiversity, landscape and environment of Waterford in recognition of its importance as a non-renewable resource and as a natural asset for health and well-being of our communities. BGI 02 To establish BGI as a key component in the planning process and designing the future for Waterford so that environmental resilience is achieved through implementation of this plan. BGI 03 We will develop a BGI Strategy the City and County during the lifetime of this plan. BGI 04 We will assess all proposals for development with the aim of no net loss of biodiversity and to achieve gain for BGI and ecosystem services. In particular we will: • Promote the retention and creation of open drainage ditches instead of underground pipes where appropriate as these provide additional habitats and water source for wetland species; and, • Promote the integration of Sustainable Drainage Systems (SuDS) in design concept and layout. BGI 05 We will continue to invest in the maintenance and enhancement of BGI and support the provision of new parks, green space corridors and other public open spaces across our urban and rural settlements. **Amenity Asset Management Policy Objective** BGI 12 We will commission an integrated management plan and management structure addressing recreation, conservation, landscape and socio-economic development issues in Waterford's uplands. BGI 16 Visitor and Habitat Management Where relevant, the Council and those receiving permission for development under the Plan shall seek to manage any increase in visitor numbers and/or any change in visitor behaviour in order to avoid significant effects, including loss of habitat and disturbance. Management measures may include ensuring that new projects and activities are a suitable distance from ecological sensitivities. Visitor/Habitat Management Plans will be required for proposed projects as relevant and appropriate. BGI 17 Increases in Visitor Numbers to Semi-Natural Areas Seek to manage any increase in visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that new any projects, such as greenways, are a suitable distance from ecological sensitivities, such as riparian zones.

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Population and human health	• Potential adverse effects arising from flood events. • Potential interactions if effects arising from environmental vectors.	ECON 20 SEVESO III Sites We will take into account the provisions of the Major Accidents Directive, relating to the control of major accident hazards involving dangerous substances, and the recommendations of the Health and Safety Authority in the assessment of all planning applications located within the consultation distance of such sites.
Soil	• Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands. • Potential for riverbank and coastal erosion.	**Natural Heritage and Environmental Quality Policy Objectives** ENV 05 Soil Protection, Contamination and Remediation Ensure that adequate soil protection 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. The EPA's publication Code of Practice: Environmental Risk Assessment for Unregulated Waste Disposal Sites (2007) shall be taken into account as relevant by proposals for development within or adjacent to old landfill sites. All undeveloped, contaminated sites shall be remediated to internationally accepted standards prior to redevelopment. All applications shall be accompanied by a report from a qualified, expert consultant remediation incorporating international best practice and expertise on innovative ecological restoration techniques including specialist planting and green initiatives that create aesthetically improved sites, healthy environments and contribute to the provision of new green open spaces as integral parts of newly created areas. Treatment/management of any contaminated material shall comply as appropriate with the Waste Management Act 1996 (waste licence, waste facility permit), as amended, and under the EPA Act 1992 (Industrial Emissions licensing, in particular the First Schedule, Class 11 Waste), as amended. These measures will ensure that contaminated material will be managed in a manner that removes any risk to human health and ensures that the end use will be compatible with any risk. Prior to the grant of approval on contaminated sites, developers will be required to carry out a full contaminated land risk assessment to demonstrate: • How the proposed landuses will be compatible with the protection of health and safety (including the durability of structures and services) - during both construction and occupation; and • How any contaminated soil or water encountered will be appropriately dealt with. **Geology Policy Objectives** G 01 We will contribute towards the appropriate protection and maintenance of the character, integrity and conservation value of features or areas of geological interest. We will protect from inappropriate development the scheduled list of Geological Heritage Sites detailed in Appendix 11. G 02 We will protect and promote the geological heritage of the UNESCO Copper Coast Geopark and support the work of the Geopark to ensure it retains and adds value to its designation status as a UNESCO Geopark.".
Water	• Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology. • Increase in flood risk and associated effects associated with flood events.	**Natural Heritage and Flood Management Policy Objectives** NH 05 Waterford City & Council will work with the OPW, LAWPRO and other agencies at a catchment-level to identify any measures, such as natural water retention measures, that can have benefits for the Water Framework Directive, flood risk management and biodiversity objectives. NH 06 Waterford City & Council will protect floodplains of river catchments in the County and retain them for their flood protection and natural heritage values. **Natural Heritage and Water Quality Policy Objectives** NH 07 Water Framework Directive and associated legislation We will contribute towards, as appropriate, the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, wetlands, the coastline, 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 (as amended), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations 2010 (as amended) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development. NH 08 In order to maintain water quality at high status and a return to good status for rivers that are not meeting this threshold at present we will: • Provide for the efficient and sustainable use and development of water resources and water services infrastructure. • Manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment. • Ensure that all development does not negatively impact on water quality and quantity, including surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters. • Ensure new development complies with the relevant EPA Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses (2009) or any amendments thereto. • Screen planning applications according to their Water Framework Directive status and have regard to their status and objectives to achieve 'good' status or protect and improve 'high or good status'. A catchment based approach shall be applied to the assessment of planning applications which may impact on water quality, and to ensure that the development would not result in a reduction in the water quality status of a waterbody in that catchment. • Seek to protect, enhance and restore all groundwaters and ensure a balance of abstraction and recharge, with the aim of achieving good groundwater status and to reverse any significant and sustained upward trends in the concentration of pollutants in groundwater. • Work with the Local Authority Waters Programme and other relevant State agencies and local communities to achieve the objectives for the Areas for Action identified in the River Basin Management Plans 2018-2021 and 2022-2027 to ensure that new development do not result in a deterioration of water quality in these areas.

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		• Develop the associated Blue Dot Catchment network programme under the River Basin Management Plan 2018-2021 to protect and maintain the excellent quality of 'High' status water bodies. NH 09 River Basin Management Plan Support the implementation of the relevant recommendations and measures as outlined in the River Basin Management Plan 2018-2021, and associated Programme of Measures, or any such plan that may supersede same during the lifetime of the plan. Proposed plans, programmes and projects shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also, to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive. NH 10 Catchment-sensitive farming practices We will encourage the use of catchment-sensitive farming practices, in order to meet Water Framework Directive targets and comply with the River Basin Management Plan. NH 11 We will maintain Bathing Water standards in line with the EU Bathing Water Directive and increase the number of blue flag beaches.
Air and Climatic Factors	• Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives. • Potential conflicts between transport emissions, including those from cars, and air quality. • Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors. • Potential conflicts with climate adaptation measures including those relating to flood risk management.	**Natural Heritage and Environmental Quality Policy Objectives** ENV 01 Air and Energy We will contribute towards compliance with air quality legislation; greenhouse gas emission targets; management of noise levels; and reductions in energy usage. ENV 02 CAFE 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).
Material Assets	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Increases in waste levels.	UTL 02 Water Services To collaborate support and work, in conjunction with Irish Water, to ensure the timely delivery and provision, extension and upgrading of existing and new high quality, climate resilient, water services infrastructure, in order to facilitate the sustainable growth and development of our City and County, in accordance with an ecosystem services and integrated catchment management approach, and the Development Plan Core and Settlement strategies. UTL 03 Water Supply and Drinking Water Regulations We will collaborate with Irish Water in contributing towards compliance with the European Union (Drinking Water) Regulations Drinking Water Regulations 2014 (as amended) and compliance of water supplies with the parameters identified in these Regulations. All new developments must be satisfactorily served by either a mains water supply, or by a private water supply. The preferred option will always be a public water supply and drainage solution. It will be the responsibility of the developer to demonstrate that any new supply is adequate to serve the proposed development and that for domestic use, it is safe to be consumed as drinking water. Groundwater abstractions must comply with EPA policies and guidelines. UTL 04 Drinking Water Report for Public Water Supplies In conjunction with Irish Water, we will have regard to the EPA 2020 publication "Drinking Water Report for Public Water Supplies 2019" (and any subsequent update) in the establishment and maintenance of water sources in the County. UTL 05 EPA's Remedial Action List In conjunction with Irish Water, 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. UTL 06 Urban Waste Water Treatment Regulations We will 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 as amended. It is the Council's preference that all new development connect to existing public wastewater treatment facilities without the need for upgrades being required to the facilities, and wastewater network connections are provided by the developer. Development will only be permitted in instances where there is sufficient capacity for appropriate collection, treatment and disposal (in compliance with the Water Framework Directive and River Basin Management Plan) of waste water. All new developments shall ensure that: • A separate foul and surface water drainage system is provided - the discharge of additional surface water to existing combined (foul and surface water) sewers is prohibited in order to maximise the capacity of these collection systems for foul water.

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	• Potential impacts upon public assets and infrastructure. • Interactions between agriculture and soil, water, biodiversity and human health - including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter.	• Where permitted, private wastewater treatment plants, are operated in compliance with: - 2021 Code of Practice for Domestic Waste Water Treatment Systems EPA, as may be amended. - EPA Wastewater Treatment Manuals – Treatment Systems for Small Communities, Business, Leisure Centres and Hotels (1999) and EPA Guidance on the Authorisation of Discharges to Groundwater (EPA 2011), as may be amended. Where a connection to public drainage infrastructure is demonstrated to be unfeasible, and/ or is not available, alternative developer-provided infrastructure, developed in collaboration with the Local Authority or otherwise, may be required/ facilitated if it is satisfactorily demonstrated that disposal of foul water can be achieved without negative impacts on public health, amenity or the environment. The detailed design of any such alternative developer provided infrastructure to service new development within our settlements should meet the technical requirements of Irish Water and may be considered in the following order of priority preferences: i. Where the proposed development exceeds the capacity of the existing treatment plant, the developer shall provide for the upgrade of the treatment plant and connection to the public network. This may be best achieved in settlements such as Lemybrien where the existing ICW can be extended as a low tech/low risk design solution. (Note from table 1 attached the Irish Water proposal to upgrade the WWTP in Lemybrien as part of the STVGP) ii. Where no existing public treatment system exists (certified or otherwise), the developer shall be responsible for developing a new ICW – preferably outside the respective settlement boundary. Such provision will involve the laying of a new network. iii. Where no, or inadequate, public waste-water treatment facilities exist, serviced sites within or immediately adjoining the settlement may be supported. In such instances, serviced site developments on 0.20 hectares (½ acre) plots with individual treatment systems will be required as a temporary measure, until such time as waste-water facilities become available. The serviced sites must be designed to permit the subdivision of each of the 0.20 hectare plots into two 0.10 hectare sites once adequate services become available. The residual land can then be developed for additional serviced sites in the future. Risk and maintenance lies with the individual home owner. Planning permission may be granted on the condition that private drainage infrastructure may be used temporarily, with the requirement to connect to public drainage infrastructure when it becomes available. Note: As per Section 5.3 of the Draft Water Services Guidelines for Planning Authorities, 'Alternative solutions such as private wells or waste water treatment plants should not generally be considered by planning authorities. UTL 07 Water Conservation To require that developments incorporate demand management and water conservation measures such as rain water harvesting and grey water use, among all users, to minimise wastage of water supply, and as viable alternatives to attenuation, and to support Irish Water in implementing water conservation measures such as leakage reduction and network improvements. UTL 08 Protection of Water Resources To work together with Irish Water towards a common goal of protecting our drinking water sources. This will be achieved by: • Supporting the preparation and implementation of Drinking Water Protection Plans by Irish Water, to protect sources of public water supply, in accordance with the requirements of the Water Framework Directive; • Having regard to the EPA 2019 publication 'Drinking Water Report for Public Water Supplies 2018' (and any subsequent update) in the establishment and maintenance of water sources in the County in conjunction with Irish Water; • Protecting both ground and surface water resources including taking account of the impacts of climate change, the cumulative impacts of septic tanks and waste water treatment systems, and to work with and support Irish Water to develop and implement Water Safety Plans to protect sources of public water supply and their contributing catchment. UTL 09 Storm and Surface Water Management To require the use of Nature Based Solutions and Sustainable Drainage Systems to minimise and limit the extent of hard surfacing and paving, and require the use of SuDS measures to be incorporated in all new development (including roads and public realm works and extensions to existing developments). Surface water drainage must be dealt with in a sustainable manner, in ways that promote its biodiversity value, and in ways that avoid pollution and flooding, through the use of an integrated SuDS (including integrated constructed wetlands), where appropriate. This includes runoff from major construction sites. Development proposals shall be accompanied by a SuDS assessment, which includes details of run-off quantity and quality and impacts on habitat and water quality, and shall demonstrate how runoff is captured as close to source as possible with subsequent slow release to the drainage system and watercourse, as well as the incorporation of appropriate measures to protect existing water bodies and remove pollutant materials. The detail of the assessment should be commensurate with the scale of the development proposed. Storm/ surface water management and run-off design should be carried out in accordance with Sustainable Urban Drainage Systems (SuDS) standards such as: • 'The SuDS Manual "(CIRIA, 2015), "Sustainable Drainage: Design and Evaluation Guide" (McCloy Consulting & Robert Bray Associates); • "Dublin Corporation Stormwater Management Policy Technical Guidelines"; • "Greater Dublin Regional Code of Practice for Drainage Works" incorporating "Greater Dublin Strategic Drainage Study, Volume 2, New Development" or any future updates; and • The capacity and efficiency of the strategic road network drainage regimes in County Waterford will be safeguarded for national road drainage purposes. In all instances the use of Nature Based Solutions is preferred to engineered solutions. Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas: Water Sensitive Urban Design Best Practice Interim Guidance Document 2022 (DHLG&H) and updates of same. UTL 10 Flooding/ SFRA To reduce the risk of new development being affected by possible future flooding by: • Avoiding development in areas at risk of flooding, • Where possible, reducing the causes of flooding to and from existing and future development;

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		• Increase the application of SuDS such as permeable paving, bioretention/infiltration ponds, swales and Natural Water Retention Measures, and the identification of existing areas which may be suitable for temporary storage/overflow of water during heavy storms; • Where development in floodplains cannot be avoided, taking a sequential approach to flood risk management based on avoidance, reduction and adaptation to the risk; and, • Ensuring that all proposals for development falling within Flood Zones A or B are consistent with the "The Planning System and Flood Risk Management – Guidelines for Planning Authorities 2009", "Climate Action and Low Carbon Development Act" (2021), and any amendment thereof, and the "Waterford Strategic Flood Risk Assessment" (2021) as included in Appendix 13 • To support the making of Local Area Plan for larger urban centres we will prepare surface water management plans where adequate data exists to support their preparation. Where data is lacking we will carry out a data review gap analysis and prepare conceptual surface water management plans as an initial step. Proposals for development identified as being vulnerable to flooding must be supported by a site specific Flood Risk Assessment, and demonstrate to the satisfaction of the Planning Authority that the development and its infrastructure will avoid significant risks of flooding and not exacerbate flooding elsewhere. We will support the development of new flood relief schemes by the OPW, in particular those at Aglish, Ballyduff and Dungarvan & Environs while protecting public investment in flood relief schemes as detailed in section 4.4.3 of the SFRA (Appendix 13). UTL 11 Flood Plains To contribute towards the improvement and/or restoration of the natural flood risk management functions of flood plains subject to compliance with the environmental legislation and availability of resources, and ensure each flood risk management activity is examined to determine actions required to embed and provide for effective climate change adaptation as set out in the OPW Climate Change Sectoral Adaptation Plan Flood Risk Management applicable at the time. UTL 17 Waste Services (Infrastructure & Management) The Council will continue to promote and facilitate the principles of the circular economy in minimising waste going to landfill and maximise waste as a resource, with prevention, preparation for reuse, recycling and recovery prioritised in that order, over the disposal of waste. This will be assisted by: Promoting and facilitating high quality sustainable waste recovery and disposal infrastructure/ technology at appropriate locations in Waterford, subject to the protection of the amenities of the surrounding environment including European Sites, guidelines incorporated into the new Regional Waste Management Plan, the siting guidance 'Waste Management Infrastructure – Guidance for Siting Waste Management Facilities' that will be incorporated into the new National Waste Management Plan for a Circular Economy and in keeping with the EU waste hierarchy; • Continuing to facilitate and promote the provision of civic amenity sites, including 'bring centres' for the purposes of providing a collection point for the recycling of domestic waste, subject to siting, location, compatibility with adjacent land uses and other relevant development management criteria. • Requiring the facilitation of bring centres in larger retail developments. • Requiring, where necessary, Project Construction and Demolition Waste Management Plans as part of applications for development in accordance with "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects" (DoEHLG, 2006). Such plans should be submitted for developments above the thresholds stated in these guidelines, and as required by the Planning Authority. • Ensuring all developments have adequate space to facilitate storage and segregation of waste arising from the development. • Supporting the implementation of the Southern Region Waste Management Plan 2015-2021 (SRWMP) and any updates made thereto, including through the assessment of planning applications by reference to the SRWMP siting and development guidelines for waste infrastructure. UTL 20 Waste Management Regulations and Closed Landfills The Council shall continue to fulfil its duties under the Waste Management (certification of historic unlicensed waste disposal and recovery activity) Regulations 2008 (S.I. No 524 of 2008), including those in relation to the identification and registration of closed landfills. UTL 22 We will safeguard the environment by seeking to ensure that residual waste is disposed of appropriately. All waste arising during construction will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and the Southern Waste Management Plan 2015-2021. UTL 23 We support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible.
Cultural Heritage	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities	**Heritage Strategic Objectives** To identify, protect, manage and enhance the rich qualities of the built, cultural and natural heritage of the City and County, and to encourage its sensitive and appropriate integration into the sustainable development of our places for the benefit of present and future generations. The Plan seeks to achieve a balance between the foregoing and economic prosperity and social integration. To seek the protection, sustainable management and enhancement of Waterford's built heritage; to promote the appropriate regeneration and reuse of our historic structures which strengthen a sense of place; to promote awareness and enjoyment of our built heritage for the present and future generations. **Heritage Policy Objectives** Heritage 01To implement and review the Waterford Heritage Plan in partnership with all relevant stakeholders and subject to available resources. Heritage 02To support the objectives of Heritage Ireland 2030 in relation to Communities and Heritage, Leadership and Heritage and Heritage Partnerships. **Built Heritage Policy Objectives** BH 01 We will promote the protection of the architectural heritage of the City and County through the identification of structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, by the inclusion of such structures on the Record of Protected Structures (RPS) and by taking such steps as are necessary to ensure the protection of those structures, their maintenance, conservation, enhancement, and appropriate active use. To this end we will contribute towards 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).

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
		BH 02 It is the policy of the Council: • To promote the sustainable reuse of protected structures for any such purpose compatible with the character of the structure. The Planning Authority may, where considered appropriate, relax use zoning and other site development restrictions and may grant exemption from or reduce the amounts of development contributions payable in order to secure the protection and conservation of protected structures or historic structures within ACAs and by way of reduction of development levies for improvements to Protected Structures. These restrictions may be relaxed and development contributions reduced or exempted where the protected structure will be rehabilitated to a high standard, where the special interest, character and setting of the building is protected and where the proposed use and development is consistent with conservation policies and the proper planning and sustainable development of the area. In such cases the proposed development shall be open for consideration notwithstanding the current zoning objective for the site and therefore shall be considered as not materially contravening the Development Plan. • To administer incentives for the protection of the architectural heritage of the City and County through administration of the Built Heritage funding schemes or similar Department of Housing Local Government and Heritage funding schemes • To advise with regard to best conservation practice as per Architectural Heritage Protection Guidelines for Planning Authorities 2011 available on https://www.waterfordcouncil.ie/departments/culture-heritage/heritage/protected-structures.htm and Department of Housing Local Government and Heritage Advice Series available on https://www.buildingsofireland.ie/resources/. BH 03 We will issue Section 57 Declarations on request to owners or occupiers of protected structures detailing the type of works that it is considered would or would not materially affect the character of the structure or of any element of the structure which contributes to its special interest. BH 04 Proposals for the demolition of a Protected Structure may be considered in exceptional circumstances and the onus will be on the developer to provide the strongest justification for such an action as per the Heritage Protection Guidelines for Planning Authorities and other guidance. BH 05 It is the policy of the Council to: • Achieve the preservation of the special character of places, areas, groups of structures setting out Architectural Conservation Areas (ACA). • Protect the special heritage values, unique characteristics and distinctive features, such as shopfronts within the ACA from inappropriate development which would detract from the special character of the ACA. • Prohibit the demolition of historic structures that positively contributes to the distinctive character of the ACA. • Encourage the undergrounding of overhead services and the removal of redundant wiring/cables within an ACA and to assesses all further cable installations against its likely impact on the character of the ACA as the cumulative impact of wiring can have a negative impact on the character of ACAs. • Provide guidelines on appropriate development to retain its distinctive character; and protect elements of the streetscape such as rubblestone boundary walls, planting schemes and street furniture such as paving, post boxes, historic bollards, basement grills, street signage/plaques, etc. which make a positive contribution to the built heritage; • Retain or sensitively reintegrate any surviving items of historic street furniture and finishes such as granite kerbing and paving that contribute to the character of an ACA. BH 06 It is the policy of the Council when considering development which may have a significant impact on a protected structures, its setting or curtilage or have an impact on an ACA, that the proposal be accompanied by an architectural heritage impact assessment (AHIA) detailing the potential impact of the development on the architectural heritage. The report should be compiled in accordance with the details set out in Appendix B of the Architectural Heritage Protection Guidelines for Planning Authorities, Department of the Environment. BH 07 It is the policy of the Council • to identify and implement measures for promoting the character of the historic cores of the city, towns and villages, their unique identity and their architectural, archaeological, historical and cultural, social interest and diversity in order for them to be a good area to work, live and visit. BH 08 It is a policy of the Council • To encourage sympathetic development or reuse of historic buildings to promote heritage led economic growth and regeneration whilst not adversely detracting from the building or its setting. Any proposals shall respect features of the special architectural and historic character by appropriate design, materials, scale, and setting. BH 09 Ecological Impact Assessment It is the policy of the Council to request an ecological impact assessment where development may have an adverse impact on protected wildlife species such as bats or nesting birds. The incorporation of biodiversity enhancement measures shall be a requirement in repair works to existing or design of new developments". BH 10 It is the policy of the Council • To facilitate appropriate, high-quality design solutions for adaptations of Protected Structures and historic buildings in an ACA that carefully consider the design, height, scale, massing, and finishes of adjacent buildings. BH 11 It is the policy of the Council • To protect structures and curtilages included in the RPS or historic structures within ACA, from any works which would visually or physically detract from the special character of the main structure, any structures within the curtilage, or the streetscape or landscape setting of the ACA. BH 12 It is the policy of the Council • To ensure the protection of the settings and vistas of Protected structures, and historic buildings within and adjacent to ACAs from any works which would result in the loss or damage to their special character. BH 13 It is the policy of the Council • To encourage the sensitive redevelopment of vacant or derelict sites within the ACA and historic cores of the city, towns and villages whilst promoting a high standard design which respects urban plots, roof lines vistas and streetscape.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
		BH 14 It is the policy of the Council to: • Encourage the sensitive redevelopment and reuse of the ground floor shop units of Protected structures or buildings in the historic cores for other uses including residential whilst retaining the shopfront façade, windows and doorways to upper floors • Promote the sustainable reuse and refurbishment of vacant upper floors of buildings in the historic core for residential use through incentives such at the Repair and Lease Scheme. BH 15 It is the policy of the Council to • Ensure that all original and traditional shopfronts which contribute positively to the appearance and character of a streetscape are retained and restored and new shopfronts are well designed, through the sympathetic use of scale, proportion and high quality materials. BH 16 It is the policy of the Council to • Promote and ensure the conservation and reuse of traditional materials and features. Original building fabric such as rubblestone and brick walls, lime mortar render, natural slate, thatch, chimneys, brick detailing, ironwork and joinery details such as timber sash windows, shopfronts, doorways and bargeboards shall be retained. Where traditional features such as timber sliding sash windows have been removed, their reinstatement shall be encouraged. • Encourage the retention and development of the traditional skills base in County Waterford and maintain the Conservation Skills register. BH 17 We will publish guidelines for best practice in the care of historic shopfronts during the lifetime of the development plan. BH 18 It is a policy of Council to: • Protect and promote the setting and visual amenity of historic gardens and designed landscapes. • Protect all elements of historic gardens and designed landscapes including structures, tree planting schemes, manmade features such as waterways, boundary features within the attendant grounds of Protected Structures. • Proposed development which have the potential to visually or physically impact on the character and/or the appearance of an historic designed landscape should be justified through a Design Landscape Assessment /Architectural Heritage Impact Assessment. BH 19 We will assess the need to establish additional areas for designation as ACA for Demesnes and to extend the boundaries of the existing ACAs having regard to their special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest or value or contribution to the appreciation of protected structures and settings and vistas. BH 20 It is a policy of the Council • To protect and promote the sustainable reuse and development within large complexes such as workhouses, school, barracks, convents, abbeys, hospitals included in the RPS, and that such proposals would be justified through an overall Conservation Plan. BH 21 It is the Policy of the Council to • identify, protect and encourage the sympathetic reuse of elements of the industrial heritage and to encourage sustainable reuse of underutilised/vacant industrial buildings for residential, commercial or tourism use. • All development proposals for industrial buildings and sites of industrial archaeological importance must be accompanied by an archaeological assessment of the building(s) and their surrounding environment. In all cases the retention and/or incorporation of industrial buildings will be encouraged and only in exceptional circumstances will demolition be considered. BH 22 During the life of the development plan we will: • Update the Industrial Heritage of Waterford Survey (2008) • Survey our maritime heritage which includes quays, harbours, river quays and walls, and navigation aids. BH 23 It is the policy of the Council to: • Support and implement the objectives of: o The Climate Change Sectoral Adaptation Plan (2019) for built and archaeological heritage, o The Waterford Climate Action Plan (2019) in building resilience for our historic sites and buildings from climate change. o Department of Environment, Heritage and Local Government's publication on 'Energy Efficiency in Traditional Buildings' (2010). o The Irish Standard IS EN 16883:2017 'Conservation of Cultural Heritage - Guidelines for Improving the Energy Performance of Historic Buildings' (2017). o Any future advisory documents in assessing proposed works on Protected Structures. • Promote the just transition to a low carbon and climate resilient society in the interest of sustainability and to reduce landfill by acknowledging the embodied energy retention and reuse of our historic building stock. • Promote the appropriate rehabilitation, revitalization and reuse of vernacular buildings, and town houses, wherever feasible, employing best conservation practice and using traditional building methods and materials such as timber windows in the interest of sustainability, good conservation practice and maintaining the long-term viability of such buildings and their associated features and improve their resilience to climate change • Ensure that measures to upgrade the energy efficiency of historic buildings acknowledge their inherent characteristics, techniques and materials and do not have a detrimental physical or visual impact on the building or its character • Support appropriate and well-informed energy efficiency upgrades to structures on the Record of Protected Structures and historic buildings through the dissemination of factual and relevant information to the general public. • Identify the built and archaeological heritage in local authority ownership and areas at risk from climate change including, but not necessarily restricted to, the Record of Monuments and Places, protected structures and architectural conservation areas designated in the development plan. BH 24 It is the policy of the Council to: • Protect, maintain and enhance the historic character and setting of vernacular buildings, farmyards and settlements

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
		• Encourage appropriate revitalisation and reuse of such structures (see rural diversification/tourism). There will be a presumption against the demolition of vernacular buildings where restoration or adaptation is a feasible option. • Promote the protection and maintenance of thatched buildings (domestic or non-domestic), particularly those with historic layers and roof structures. BH 25 During the life of the development plan we will: • Update the Thatch House survey of County Waterford • Promote available grant schemes and facilitate engagement with owners in the maintenance of these buildings. BH 26 It is a policy of the council to • Encourage and facilitate the sensitive reuse of vernacular houses or farm buildings for farm diversification, agritourism and rural development, including self-catering accommodation, arts or craft workshops and small-scale manufacturing. Guidance and information can be found in Traditional Buildings for Irish Farms (2005) published by the Heritage Council and Teagasc, and Reusing Farm Buildings: A Kildare Perspective (2006) published by Kildare County Council. BH 27 It is the policy of the Council where proposals for sensitive rehabilitation of disused vernacular buildings in the open countryside are being considered they will not be required to establish a rural housing need provided that their vernacular character is enhanced and that their fabric is repaired using appropriate techniques and materials. Where the subject structure is demolished a rural housing need will be required. BH 28 It is the policy of the Council to ensure that where permission is sought to demolish a structure which is considered of vernacular significance, on the grounds of structural defects or failure, or that it is not reasonably capable of being made structurally sound, the developer will be required to submit a report by a professional with appropriate conservation expertise and an understanding of vernacular buildings which demonstrate substantial reasons for the demolition. It must be satisfactorily demonstrated that every effort has been made to continue the present use or find a suitable new use for the structure(s). BH 29 It is the policy of the council to ensure that where it is proposed to extend an existing vernacular house/ building, the design, scale, footprint and materials should be sympathetic to the existing building and its setting. Extensions should: • generally be located to the rear and not obscure the form or layout of the existing building; • substantial removal of walling should be avoided; • connecting the existing building and extension should minimise the number of new openings and ideally use existing openings; and, • Where feasible outbuilding contiguous to a dwelling can sometimes be successfully incorporated. BH 30 It is the policy of the Council to: • To promote a high standard of civic amenity and design and to respect existing open spaces, urban spaces, settings, vistas street furniture and streetscape within historic cores. The Council shall consider the receiving environment when erecting signage, undertaking road markings, providing traffic control measures bike lanes, parking spaces, planting and road and footpath access works, and ensures that all such works are sensitive to the to the distinctive character of the area and streetscape. • Preserve the retention of historic items of street furniture where these contribute to the character of the area, including items of a vernacular or local significance. • Ensure street furniture and signage is kept to a minimum, is of high quality design and material and that any redundant street furniture is removed. BH 31 We will protect and preserve the integrity and enhance elements of the built heritage such as limekilns, quays, bollards, bridges and their settings. BH 32 It is a policy of the Council • To demonstrate best practice with regard to Protected Structures, Recorded Monuments and other elements of architectural and archaeological heritage in the ownership and care of the Council and to ensure appropriate materials and methodologies are used for the repair works. BH 33 During the life of the development plan we will carry out an audit of all protected structures in our ownership with a view to securing uses that are compatible with the character of the individual protected structure. BH 34 It is the policy of the Council to promote public awareness of the value of the our historic built heritage and our archaeology and the positive contribution protected structures, historic structures and archaeology make to the built environment, the sense of place, distinctiveness and authenticity of an area and the tourism potential to Waterford and to develop specific measures to achieve such awareness. BH 35 We will continue the publication of architectural/archaeological guides series such Historic Waterford – The Coast , Architectural Waterford, Heritage Tourism Guides on line (or via app). **Archaeological Heritage Policy Objectives** AH 01 It is the policy of the Council to protect, and enhance in an appropriate manner all elements of the archaeological heritage including the following categories: a) Sites and monuments included in the Sites and Monuments Record as maintained by the Department with responsibility for the protection of Ireland's archaeological heritage. b) Monuments and places included in the Record of Monuments and Places (RMP) as established under the National Monuments Acts. c) Historic monuments and archaeological areas included in the Register of Historic Monuments as established under the National Monuments Acts. d) National Monuments subject to Preservation Orders under the National Monuments Acts and National Monuments which are in the ownership or guardianship of the Minister with responsibility for archaeological heritage or a local authority. e) Archaeological objects within the meaning of the National Monuments Acts. f) Wrecks protected under the National Monuments Acts or otherwise included in the Shipwreck Inventory maintained by the National Monuments Service, underwater archaeology, riverine, coastal or lacustrine locations. g) Archaeological features not as yet identified but which may be impacted on by development. And where feasible, appropriate and applicable to promote access (including disabled access) to and signposting and interpretive material of such sites and monuments and provide appropriate forms of virtual access where physical access is not possible.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
		AH 02 We will contribute, as appropriate, 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). We will ensure that archaeological excavation is carried out according to best practice as outlined by the National Monuments Service, Department of Housing, Local Government and Heritage, the National Museum of Ireland and the Institute of Archaeologists of Ireland. We will consult with the National Monuments Service as relevant in relation to proposed developments, including those adjoining archaeological sites. AH 03 It is the policy of the Council • Waterford City & County Council shall, in an appropriate manner, secure either by preservation in-situ or preservation-by-record, the archaeological heritage. In this regard priority shall be given to the preservation in-situ of any archaeological monument/site/place as the first option considered. If preservation in-situ cannot be achieved, or can only be achieved in-part, then preservation-by-record of elements of the archaeological heritage will be required –this will require the full archaeological excavation and recording of the monument/site, according to best professional practice. Where excavation is required this shall also include the preparation of appropriate reports, post-excavation analyses and publications. The costs of assessing and mitigating archaeological impacts shall form part of development costs as borne by the developer. AH 04 It is the policy of the Council to: Ensure that development in the vicinity of a site of archaeological interest shall be designed and sited sympathetically and shall not be detrimental to the character of the archaeological site or its setting by reason of its location, scale, bulk or detailing. • When considering development in the vicinity of all archaeological sites including remnants of the city and town walls, the planning authority will require the preparation of an archaeological assessment detailing the potential impact of any development on upstanding structures, buried structures and deposits. The report will also include a visual impact assessment to ensure adequate consideration of any potential visual impact the proposed development may have on any upstanding remains. • Proposed developments will be required to retain the existing street layout, including laneways, historic building lines and traditional plot widths where these derive from medieval or earlier origins. • When considering development in the vicinity of upstanding archaeological/historical monuments, to aim to achieve a satisfactory buffer area between the development and the monument in order to ensure the preservation and enhancement of the amenity associated with the presence of upstanding monuments within the historic urban pattern. • For all developments, which have potential to impact on riverine, intertidal and sub-tidal environments to require an archaeological assessment prior to works being carried out. In addition to planning permission, development works at National Monuments of which the Minister or local authority is owner of, guardian of or in respect of which a preservation order is in force, may also require Ministerial Consent under Section 14 of the National Monuments Act 1930 (as amended) and this will be determined by the relevant authority (Department of Housing, Local Government & Heritage) on application. AH 05 We will protect the essential character and setting of the City Walls and Towers through the control of the design, location and layout of new development in their vicinity and through the control of changes of use of lands, by the protection of adjoining streetscapes and site features where appropriate and by protecting important views to and from the walls and towers from obstruction and/or inappropriate intrusion by new buildings structures, plant and equipment, signs and other devices; and where opportunities arise to create additional views of the walls and towers. We will continue to protect enhance and promote the City Walls by updating the City Walls Plan (2014) and implement an Interpretation Plan for Waterford Medieval City Walls and Towers. AH 06 We will deliver the actions of the Woodstown Viking Site Conservation Management Plan 2020, in collaboration with the Woodstown Steering Committee and all relevant Stakeholders. AH 07 It is a policy of the Council to • Utilise Waterford's archaeology such as its City Walls and Towers as an educational and tourism resource and to facilitate the publication and dissemination of interpretative material to the general public, and to facilitate public access to the walls and towers and other sites of interest. • Promote the incorporation of or reference to significant archaeological finds in a development, where appropriate, through layout, displays, signage, plaques, information panels or use of historic place names. AH 08 It is the policy of the Council • to apply best practice in the care and management of historic graveyards as detailed in the guidance document on the "Care, Conservation and Recording of Historic Graveyards in County Waterford" published by Waterford County Council in 2009 and the Department of Housing, Local Government and Heritage Advice Series Places of Worship available on https://www.buildingsofireland.ie/app/uploads/2019/10/Places-of-Worship-The-Conservation-of-Places-of-Worship-2011.pdf AH 09 We will promote community archaeology projects such as the Adopt a Monument Scheme and avail of funding to support same in the interests of conserving sites and monuments in the city and county.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendations integrated into the Plan, included in:
Landscape	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.	**Landscape Policy Objectives** L 01 National Landscape Strategy We will support provisions of the 2014 National Landscape Strategy and provide for the sustainable management of all of County Waterford's landscapes including archaeological landscapes, waterway corridors, coastal, upland, rural and peri-urban landscapes. L 02 Protecting our Landscape and Seascape We will protect the landscape and natural assets of the County by ensuring that proposed developments do not detrimentally impact on the character, integrity, distinctiveness or scenic value of their area and ensuring that such proposals are not unduly visually obtrusive in the landscape, in particular, in or adjacent to the uplands, along river corridors, coastal or other distinctive landscape character units. L 03 Landscape and Seascape Character Assessment We will assess all proposals for development outside of our settlements in terms of the 2020 Landscape and Seascape Character Assessment (Appendix 8) and the associated sensitivity of the particular location. We will require a Landscape and Visual Impact Assessment (LVIA) for proposed developments with the potential to impact on significant landscape features within the City and County. Proposals for significant development (e.g. renewable energy projects, telecommunications and other infrastructure and the extractive industry) shall be accompanied by a LVIA which includes Zones of Theoretical Visibility (ZTV) which indicate the landscape impact zone within which the proposed development may be seen. There will be a presumption against developments which are located on elevated and exposed sites and where the landscape cannot accommodate such development with reasonable and appropriate mitigation. LS 04 Scenic Routes and Protected Views We will protect the scenic routes and specified protected views identified in our Landscape Character Assessment (Appendix 8), including views to and from the sea, rivers, landscape features, mountains, landmark structures and urban settlements from inappropriate development that by virtue of design, scale, character or cumulative impact would block or detract from such views.

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.

Monitoring can both demonstrate the positive effects facilitated by the Plan and can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

The occurrence of significant adverse environmental effects not predicted and mitigated by this assessment, which are directly attributable to the implementation of the Plan, would necessitate consideration of these effects in the context of the Plan and potential remediation action(s) and/or review of part(s) of the Plan.

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. Given the position of the Development Plan in the land use planning hierarchy beneath RSES, the measures identified in the RSES SEAs, including the Southern RSES SEA, have been used – as they are or having been slightly modified – in most instances. This consistency across the hierarchy of land use plans will improve the efficiency and effectiveness of future monitoring.

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

Monitoring is an ongoing process and the programme allows for flexibility and the further refinement of indicators and targets. The Monitoring Programme may be updated to deal with specific environmental issues – including unforeseen effects – as they arise.

10.3 Sources

The Plan forms part of the wider land use planning framework comprising a hierarchy of policies, plans, programmes, etc. This wider framework, including the National Planning Framework and the Southern RSES, is subject to its own SEA (and associated monitoring) requirements. At lower tiers of the hierarchy, Local Area Plans and individual projects will be subject to their own monitoring requirements as relevant.

In implementing the Monitoring Programme the Council will take into account this hierarchy of planning and environmental monitoring.

Sources for indicators may include existing monitoring databases (including those maintained by planning authorities and national/regional government departments and agencies) and the output of lower-tier environmental assessment and decision making (including a review of project approvals granted and associated documents and the output of any EIA monitoring programmes).

10.4 Reporting

As provided by Policy Objective NH03 "Monitoring and Management", the Council shall, in conjunction with the Regional Assembly and other sources as relevant, implement the monitoring programme as set out in the SEA Environmental Report and Statement. This will include the preparation of stand-alone SEA Monitoring Reports:

1. To accompany the report required of the manager under section 15(2) of the Act, including information in relation to progress on, and the results of, monitoring the significant environmental effects of implementation of the Development Plan; and

2. On the significant environmental effects of implementing the Plan, in

advance of the beginning of the review of the next Plan.

Reporting will seek to address the indicators set out on Table 10.1. The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports (reports will be made available to the public) and, if necessary, the carrying out of remedial action.

Table 10.1 Indicators, Targets, Sources and Remedial Action

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
Biodiversity, Flora and Fauna	**BFF**	• Condition of European sites	• Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species • Implement and review, as relevant, County Heritage Plan 2017-2022	• DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years) [89] • DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years) [90] • Consultations with the NPWS (see Section 10.4) [91]	• Where condition of European sites is found to be deteriorating this will be investigated with the Regional Assembly and the DHLGH to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance.
		• Number of spatial plans that have included ecosystem services content, mapping and policy to protect ecosystem services when their relevant plans are either revised or drafted	• Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species • Implement and review, as relevant, County Heritage Plan 2017-2022	• Internal review of local land use plans	• Review internal systems
		• SEAs and AAs as relevant for new Council policies, plans, programmes etc.	• Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.	• Internal monitoring of preparation of local land use plans	• Review internal systems
		• Status of water quality in the City and County's water bodies	• Included under Water below	• Included under Water below	• Included under Water below
		• Compliance of planning permissions with Plan measures providing for the protection of Biodiversity and flora and fauna – see Chapter 9 "Climate Action, Biodiversity and Environment"	• For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 9 "Climate Action, Biodiversity and Environment"	• Internal monitoring of likely significant environmental effects of grants of permission [92]	• Review internal systems
Population and Human Health	**PHH**	• Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 4 "Economy, Tourism, Education and Retail"	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided for by Chapter 4 "Economy, Tourism, Education and Retail"	• Internal review of progress on implementing Plan objectives • Consultations with DECC (see Section 10.4)	• Review internal systems • Consultations with DECC

[89] Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

[90] Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

[91] Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

[92] Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
			• By 2020 all citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps (Also relevant to Material Assets)		
		• Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan	• No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	• Consultations with the Health Service Executive and EPA	• Consultations with the Health Service Executive and EPA
		• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• CSO data • Monitoring of Waterford City and County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.
		• Number of spatial plans that include specific green infrastructure mapping	• Require all local level land use plans to include specific green infrastructure mapping	• Internal review of local land use plans	• Review internal systems
Soil (and Land)	S	• Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets)	• Maintain built surface cover nationally to below the EU average of 4% as per the NPF • In accordance with National Policy Objectives 3c of the National Planning Framework, a minimum of 30% of the housing growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement • To map brownfield and infill land parcels across the City and County	• EPA Geoportal • Compilation of greenfield and brownfield development for the DHLGH • AA/Screening for AA for each application	• Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF and the RSES, the Council will liaise with the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so.
		• Instances where contaminated material generated from brownfield and infill must be disposed of	• Dispose of contaminated material in compliance with EPA guidance and waste management requirements	• Internal review of grants of permission where contaminated material must be disposed of	• Consultations with the EPA and Development Management
		• Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission	• Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission	• Internal monitoring of grants of permission	• Review internal systems
Water	W	• Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD	• Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' • Implementation of the objectives of the River Basin Management Plan	• EPA Monitoring Programme for WFD compliance [93]	• Where water bodies are failing to meet at least good status this will be investigated with the DHLGH Water Section, the EPA Catchment Unit, the Regional Assembly and, as relevant, Irish Water to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance. • Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the

[93] Including monitoring of water quality and nitrogen deposition due to bioenergy and agricultural projects where available.

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
					WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity.
		• Number of incompatible developments permitted within flood risk areas	• Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	• Internal monitoring of likely significant environmental effects of grants of permission	• Where planning applications are being permitted on flood zones, the Council will ensure that such grants are in compliance with the Flood Risk Management Guidelines and include appropriate flood risk mitigation and management measures.
Material Assets	MA	• Programmed delivery of Irish Water infrastructure for all key growth towns in line with Irish Water Investment Plan and prioritisation programme to ensure sustainable growth can be accommodated • Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	• All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan • Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate that the outfall from the septic tank will not – in-combination with other septic tanks– contribute towards any surface or ground water body not meeting the objective of good status under the Water Framework Directive • Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure • See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health	• Internal monitoring of likely significant environmental effects of grants of permission Consultations with the Irish Water (see Section 10.4) • DHLGH in conjunction with Local Authorities	• Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity.
		• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• CSO data • Monitoring of Waterford City and County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.
Air	A	• Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels of 74% • NO_x, SO_x, PM10 and PM2.5 as part of Ambient Air Quality Monitoring	• Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels • Improvement in Air Quality trends, particularly in relation to transport related emissions of NO_x and particulate matter	• CSO data • Data from the National Travel Survey • EPA Air Quality Monitoring • Consultations with Department of Transport and Department of Environment, Climate and Communications (see Section 10.4)	• Where proportion of population shows increase in private car use above CSO 2016 figures, Council will coordinate with the Regional Assembly, DHLGH, DECC and NTA to develop a tailored response. See also entry under Population and human health above

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
Climatic Factors [94]	C	• Implementation of Plan measures relating to climate reduction targets	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets	• Internal monitoring of likely significant environmental effects of grants of permission	• Review internal systems
		• A competitive, low-carbon, climate-resilient and environmentally sustainable economy	• Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050	• Monitoring of Waterford City and County Council's Climate Change Adaptation Strategy 2019-2024 • EPA Annual National Greenhouse Gas Emissions Inventory reporting • Climate Action Regional Office • Consultations with DECC (at monitoring evaluation - see Section 10.4)	• Where targets are not achieved, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions.
		• Share of renewable energy in transport	• Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the Plan		
		• Carbon dioxide (CO_2) emissions across the electricity generation, built environment and transport sectors	• Contribute towards the target of aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors		
		• Energy consumption, the uptake of renewable options and solid fuels for residential heating	• To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating		
		• Proportion of journeys made by private fossil fuel-based car compared to 2016 levels	• Decrease in the proportion of journeys made by residents of the City and County using private fossil fuel-based car compared to 2016 levels	• CSO data • Monitoring of Waterford City and County Council's Climate Change Adaptation Strategy 2019-2024	• Where trends toward carbon reduction are not recorded, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions.
		• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	• CSO data • Monitoring of Waterford City and County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.

[94] Please also refer to relevant legislation and requirements under Section 4.10, Section 8.6, Section 8.8.9 and Appendix I. Targets under the national Climate Action Plan are reviewed and updated periodically and include those under the headings of Electricity, Built Environment, Transport, Agriculture, Forestry & Land Use and Enterprise.

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
Cultural Heritage	CH	• Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan	• Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan	• Internal monitoring of likely significant environmental effects of grants of permission	• Where monitoring reveals visitor or development pressure is causing negative effects on designated archaeological or architectural heritage, the Council will work with the Regional Assembly, Fáilte Ireland and the National Monuments Service and other stakeholders, as relevant, to address pressures through additional mitigation.
		• 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	• 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	• Consultation with DHLGH (see Section 10.4).	
Landscape	L	• Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan	• No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan	• Internal monitoring of likely significant environmental effects of grants of permission	• Where monitoring reveals developments permitted which result in avoidable adverse visual impacts on the landscape, the Council will re-examine Plan provisions and the effectiveness of their implementation

Appendix I Relationship with Legislation and Other Policies, 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.

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
International/European Level			
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU Nitrates Directive (91/676/EC)	• Reducing water pollution caused or induced by nitrates from agricultural sources and – preventing further such pollution.	Ireland's Nitrates Action Programme is designed to prevent pollution of surface waters and ground water from agricultural sources and to protect and improve water quality. Ireland's third NAP came into operation in 2014. Each Member State's NAP must include: • a limit on the amount of livestock manure applied to the land each year • set periods when land spreading is prohibited due to risk	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
		• set capacity levels for the storage of livestock manure	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.
EU Integrated Pollution Prevention Control Directive (2008/1/EC)	• The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I. It lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.	The IPPC Directive is based on several principles: • an integrated approach • best available techniques, • flexibility; and • public participation	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU Plant Protection (products) Directive 2009/127/EC	• The Directive aims at reducing the risks and impacts of pesticide use on human health and • the environment by introducing different targets, tools and measures such as Integrated Pest • Management (IPM) or National Action Plans (NAPs).	• The Framework Directive applies to pesticides which are plant protection products. • Regarding pesticide application equipment already in professional use, the Framework Directive introduces requirements for the inspection and maintenance to be carried out on such equipment.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU Renewables Directive (2009/28/EC)	• The Renewable Energy Directive establishes an overall policy for the production and promotion of energy from renewable sources in the EU. • It requires the EU to fulfil at least 20% of its total energy needs with renewables by 2020 – to be achieved through the attainment of individual national targets. • All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.	• The Directive promotes cooperation amongst EU countries (and with countries outside the EU) to help them meet their renewable energy targets. • The Directive specifies national renewable energy targets for each country, taking into account its starting point and overall potential for renewables. • EU countries set out how they plan to meet these targets and the general course of their renewable energy policy in national renewable energy action plans. • Progress towards national targets is measured every two years when EU countries publish national renewable energy progress reports.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Indirect Land Use Change Directive (2012/0288 (COD))	• Article 3(4) of Directive 2009/28/EC of the European Parliament and of the Council (3) requires Member States to ensure that the share of energy from renewable energy sources in all forms of transport in 2020 is at least 10 % of their final energy consumption. • The blending of biofuels is one of the methods available for Member States to meet this target, and is expected to be the main contributor. • Other methods available to meet the target are the reduction of energy consumption, which is imperative because a mandatory percentage target for energy from renewable sources is likely to become increasingly difficult to achieve sustainably if overall demand for energy for transport continues to rise, and the use of electricity from renewable energy sources.	• Limit the contribution that conventional biofuels (with a risk of ILUC emissions) make towards attainment of the targets in the Renewable Energy Directive; • Improve the greenhouse gas performance of biofuel production processes (reducing associated emissions) by raising the greenhouse gas saving threshold for new installations subject to protecting installations already in operation on 1st July 2014; • Encourage a greater market penetration of advanced (low-ILUC) biofuels by allowing such fuels to contribute more to the targets in the Renewable Energy Directive than conventional biofuels; • Improve the reporting of greenhouse gas emissions by obliging Member States and fuel suppliers to report the estimated indirect land-use change emissions of biofuels.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Alternative Fuels Infrastructure Directive (2014/94/EU)	• This Directive establishes a common framework of measures for the deployment of alternative fuels infrastructure in the Union in order to minimise dependence on oil and to mitigate the environmental impact of transport.	• This Directive sets out minimum requirements for the building-up of alternative fuels infrastructure, including recharging points for electric vehicles and refuelling points for natural gas (LNG and CNG) and hydrogen, to be implemented by means of Member States' national policy frameworks, as well as common technical specifications for such recharging and refuelling points, and user information requirements.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU Energy Efficiency Directive (2012/27/EU)	• Establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. • Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, from production to final consumption.	• Energy distributors or retail energy sales companies have to achieve 1.5% energy savings per year through the implementation of energy efficiency measures • EU countries can opt to achieve the same level of savings through other means, such as improving the efficiency of heating systems, installing double glazed windows or insulating roofs	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
		• The public sector in EU countries should purchase energy efficient buildings, products and services • Every year, governments in EU countries must carry out energy efficient renovations on at least 3% (by floor area) of the buildings they own and occupy • Energy consumers should be empowered to better manage consumption. This includes easy and free access to data on consumption through individual metering • National incentives for SMEs to undergo energy audits • Large companies will make audits of their energy consumption to help them identify ways to reduce it • Monitoring efficiency levels in new energy generation capacities.	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.
EU Seveso Directive (2012/18/EU)	• This Directive lays down rules for the prevention of major accidents which involve dangerous substances, and the limitation of their consequences for human health and the environment, with a view to ensuring a high level of protection throughout the Union in a consistent and effective manner.	The Seveso Directive is well integrated with other EU policies, thus avoiding double regulation or other administrative burden. This includes the following related policy areas: • Classification, labelling and packaging of chemicals; • The Union's Civil Protection Mechanism; • The Security Union Agenda including CBRN-E and Protection of critical infrastructure; • Policy on environmental liability and on the protection of the environment through criminal law; • Safety of offshore oil and gas operations.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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 Union 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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Biodiversity Strategy for 2030 - Bringing nature back into our lives (European Commission, 2020)	• The EU's biodiversity strategy for 2030 is a comprehensive, ambitious and long-term plan to protect nature and reverse the degradation of ecosystems. The strategy aims to put Europe's biodiversity on a path to recovery by 2030, and contains specific actions and commitments.	The Strategy contains specific commitments and actions to be delivered by 2030, including: • Establishing a larger EU-wide network of protected areas on land and at sea, building upon existing Natura 2000 areas, with strict protection for areas of very high biodiversity and climate value. • An EU Nature Restoration Plan - a series of concrete commitments and actions to restore degraded ecosystems across the EU by 2030, and manage them sustainably, addressing the key drivers of biodiversity loss. • A set of measures to enable the necessary transformative change: setting in motion a new, strengthened governance framework to ensure better implementation and track progress, improving knowledge, financing and investments and better respecting nature in public and business decision-making. • Measures to tackle the global biodiversity challenge, demonstrating that the EU is ready to lead by example towards the successful adoption of an ambitious global biodiversity framework under the Convention on Biological Diversity.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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. • Improving information and promoting innovation.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
UNESCO (1972) The Convention for the Protection of the World Cultural and Natural Heritage	• links concepts of nature conservation and the preservation of cultural properties; and • recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two.	• sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them; • each country pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage; • encourages to integrate the protection of the cultural and natural heritage into regional planning programmes, set up staff and services at their sites, undertake scientific and technical conservation research and adopt measures which give this heritage a function in the day-to-day life of the community.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
			framework for environmental protection and management.
UN (1992) The Convention on Biological Diversity	An overall objective is to develop national strategies for the conservation and sustainable use of biological diversity.	The Convention has three main goals: • the conservation of biological diversity (or biodiversity); • the sustainable use of its components; and • the fair and equitable sharing of benefits arising from genetic resources.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
UN (1992) Framework Convention on Climate Change	It is aimed at stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.	The Convention acknowledges the vulnerability of all countries to the effects of climate change and calls for special efforts to ease the consequences, especially in developing countries which lack the resources to do so on their own.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
UN Kyoto Protocol (2nd Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015 (Paris Agreement)	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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU 2030 Framework for Climate and Energy	• A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries. • Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.	To meet the targets, the European Commission has proposed the following policies for 2030: • A reformed EU emissions trading scheme (ETS). • New indicators for the competitiveness and security of the energy system, such as price differences with major trading partners, diversification of supply, and interconnection capacity between EU countries. • First ideas for a new governance system based on national plans for competitive, secure, and sustainable energy. These plans will follow a common EU approach. They will ensure stronger investor certainty, greater transparency, enhanced policy coherence and improved coordination across the EU.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
The Clean Air for Europe Directive (2008/50/EC) **(EU Air Framework Directive)** **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 $PM_{2.5}$ (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. • 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.	• 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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

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	• 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.	• Aims to promote increased cooperation between the Member States in reducing air pollution.	framework for environmental protection and management.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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		• Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial.	
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Environmental Liability Directive (2004/35/EC) as amended by Directive 2006/21/EC, Directive 2009/31/EC and Directive 2013/30/EU	• 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. • The Environmental Liability Directive has been amended through a number of Directives. Implementation of the Environmental Liability Directive is contributed towards by a Multi-Annual Work Programme (MAWP) 'Making the Environmental Liability Directive more fit for purpose' that is updated annually to changing developments, growing knowledge and new needs.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Convention on the Protection of the Archaeological Heritage (Valletta 1992)	• The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study.	The Valletta Convention makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage. It also constitutes an institutional framework for pan-European co-operation on the archaeological heritage, entailing a systematic exchange of experience and experts among the various States.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Convention of the Protection of the Architectural Heritage of Europe (Granada 1995)	• The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.	• The reinforcement and promotion of policies for protecting and enhancing the heritage within the territories of the parties. • The affirmation of European solidarity with regard to the protection of the heritage and the fostering of practical co-operation between states and regions.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
ICOMOS (2011) Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes ('Dublin Principles')	• It is aimed to assist in the documentation, protection, conservation and appreciation of industrial heritage as part of the heritage of human societies around the World.	• (I) Document and understand industrial heritage structures, sites, areas and landscapes and their values; • (II) Ensure effective protection and conservation of the industrial heritage structures, sites, areas and landscapes;	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all

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		• (III) Conserve and maintain the industrial heritage structures, sites, areas and landscapes; and • (IV) Present and communicate the heritage dimensions and values of industrial structures, sites, areas and landscapes to raise public and corporate awareness, and support training and research.	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.
Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro 2005)	• Cultural heritage is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time. • A heritage community consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations.	• Recognise that rights relating to cultural heritage are inherent in the right to participate in cultural life, as defined in the Universal Declaration of Human Rights. • Recognise individual and collective responsibility towards cultural heritage. • Emphasise that the conservation of cultural heritage and its sustainable use have human development and quality of life as their goal. • Take the necessary steps to apply the provisions of this Convention concerning the role of cultural heritage in the construction of a peaceful and democratic society. • Greater synergy of competencies among all the public, institutional and private actors concerned.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Landscape Convention 2000	• The developments in agriculture, forestry, industrial and mineral production techniques, together with the practices followed in town and country planning, transport, networks, tourism and recreation, and at a more general level, changes in the world economy, have in many cases accelerated the transformation of landscapes. The Convention expresses a concern to achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment. It aims to respond to the public's wish to enjoy high quality landscapes.	• Promote protection, management and planning of landscapes. • Organise European co-operation on landscape issues.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
The Seventh Environmental Action Programme (EAP) of the European Community (2013-2020)	It identifies three key objectives: • to protect, conserve and enhance the Union's natural capital • to turn the Union into a resource-efficient, green, and competitive low-carbon economy • to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing	Four so called "enablers" will help Europe deliver on these objectives (goals): • Better implementation of legislation. • Better information by improving the knowledge base. • More and wiser investment for environment and climate policy. • Full integration of environmental requirements and considerations into other policies. Two additional horizontal priority objectives complete the programme: • To make the Union's cities more sustainable. • To help the Union address international environmental and climate challenges more effectively.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats)	The convention has three main aims: • to conserve wild flora and fauna and their natural habitats • to promote cooperation between states • to give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species	The Parties under the convention recognise the intrinsic value of nature, which needs to be preserved and passed to future generations, they also: • Seek to ensure the conservation of nature in their countries, paying particular attention to planning and development policies and pollution control. • Look at implementing the Bern Convention in central Eastern Europe and the Caucus. • Take account of the potential impact on natural heritage by other policies. • Promote education and information of the public, ensuring the need to conserve species is understood and acted upon. • Develop an extensive number of species action plans, codes of conducts, and guidelines, at their own initiative or in co-operation with other organisations. • Created the Emerald Network, an ecological network made up of Areas of Special Conservation Interest.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Bali Road Map (2007)	The overall goals of the project are twofold: • To increase national capacity to co-ordinate ministerial views, participate in the UNFCCC process, and negotiate positions within the timeframe of the Bali Action Plan; and • To assess investment and financial flows to address climate change for up to three key sectors and/or economic activities.	The Bali Action Plan is centred on four main building Blocks: • mitigation • adaptation • technology • financing	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Cancun Agreements (2010)	Set of decisions taken at the COP 16 Conference in Cancun in 2010 which addresses a series of key issues in the fight against climate change. Cancun Agreements' main objectives cover: • Mitigation • Transparency of actions	Among the most prominent agreements is the establishment of a Green Climate Fund to transfer money from the developed to developing world to tackle the impacts of climate change.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all

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	• Technology • Finance • Adaptation • Forests • Capacity building		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.
Doha Climate Gateway (2012)	Set of decisions taken at the COP 18 meeting in Doha in 2012 which pave the way for a new agreement in Paris in 2015.	• Set out a timetable to adopt a universal climate agreement by 2015 (to come into effect in 2020); • Complete the work under Bali Action Plan and to focus on new completing new targets; • Strengthen the aim to cut greenhouse gases and help vulnerable countries to adapt; • Amend Kyoto Protocol to include a new commitment period for cutting down the greenhouse gases emissions; and • Provide the financial and technology support and new institutions to allow clean energy investment and sustainable growth in developing countries.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU Common Agricultural Policy	• To improve agricultural productivity, so that consumers have a stable supply of affordable food; and • To ensure that EU farmers can make a reasonable living.	• ensuring viable food production that will contribute to feeding the world's population, which is expected to rise considerably in the future; • Climate change and sustainable management of natural resources; • Looking after the countryside across the EU and keeping the rural economy alive.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU REACH Regulation (EC 1907/2006)	• Aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances.	The aims are achieved by applying REACH, namely: • Registration, • Evaluation, • Authorisation; and • Restriction of chemicals. REACH also aims to enhance innovation and competitiveness of the EU chemicals industry.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Stockholm Convention	• The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants.	• Prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced Persistent Organic Pollutants (POPs) that are listed in Annex A to the Convention • Restrict the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex B to the Convention • Reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention • Ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner • To target additional POPs • Other provisions of the Convention relate to the development of implementation plans, information exchange, public information, awareness and education, research, development and monitoring, technical assistance, financial resources and mechanisms, reporting, effectiveness evaluation and non-compliance	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Ramsar Convention	The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".	Under the "three pillars" of the Convention, the Contracting Parties commit to: • Work towards the wise use of all their wetlands; • Designate suitable wetlands for the list of Wetlands of International Importance (the "Ramsar List") and ensure their effective management; • Cooperate internationally on transboundary wetlands, shared wetland systems and shared species.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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European 2020 Strategy for Growth	Europe 2020 sets out a vision of Europe's social market economy for the 21st century and puts forward three mutually reinforcing priorities: • Smart growth: developing an economy based on knowledge and innovation; • Sustainable growth: promoting a more resource efficient, greener and more competitive economy; • Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.	In order to reach these priorities, the Commission proposes five quantitative targets to fulfil by 2020: 1. 75 % of the population aged 20-64 should be employed; 2. 3% of the EU's GDP should be invested in R&D; 3. the "20/20/20" climate/energy targets should be met (including an increase to 30% of emissions reduction if the conditions are right); 4. the share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree; 5. 20 million less people should be at risk of poverty.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Parliament resolutions, including the European Green Deal (EGD) 2020	The deal sets out how to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people's quality of life, caring for nature and leaving no one behind.	• It sets out a roadmap with actions to boost the efficient use of resources by moving to a clean, circular economy, restore biodiversity and cut pollution. • It outlines investments required, financing tools available and explains how to ensure a just and inclusive transition. • In order to meet the goal to become climate neutral by 2050 as part of the European Green Deal, the European Union (EU) Commission proposed on 4th March 2020 to bring about the first European Climate Law and legally bind the target of net zero greenhouse gas emissions by 2050.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EU (2018) Clean Air Policy Package	Aims to substantially reduce air pollution across the EU.	The proposed strategy sets out objectives for reducing the health and environmental impacts of air pollution by 2030, and contains legislative proposals to implement stricter standards for emissions and air pollution.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Leaders Pledge for Nature 2020	Political leaders (including Taoiseach Michael Martin) participating in the United Nations Summit on Biodiversity in September 2020, representing 75 countries from all regions and the European Union, have committed to reversing biodiversity loss by 2030.	As part of the UN Decade of Action to achieve sustainable development, the leaders commit to achieve the vision of Living in Harmony with Nature by 2050 by undertaking ten actions, including: • Putting biodiversity, climate, and the environment at the heart of COVID-19 recovery strategies and investments as well as national and international development and cooperation; • Developing and implementing an ambitious and transformational post-2020 global biodiversity framework for adoption at the 15th meeting of the Conference of the Parties (COP 15) to the UN Convention on Biological Diversity (CBD) in Kunming, China, as a key instrument to reach the SDGs; • Raising ambition and aligning domestic climate policies with the Paris Agreement on climate change, with enhanced nationally determined contributions (NDCs) and long-term strategies consistent with the temperature goals of the Paris Agreement, and the objective of net zero greenhouse gas (GHG) emissions by mid-century, and strengthen climate resilience of economies and ecosystems; and • Mainstream biodiversity into relevant sectoral and cross-sectoral policies at all levels, including in food production, agriculture, fisheries and forestry, energy, tourism, infrastructure and extractive industries, and trade and supply chains, as well as into key international agreements and processes.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Level			
Ireland 2040 - Our Plan, the National Planning Framework and the National Development Plan (2018-2027)	• The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. • The National Development Plan sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.	National Strategic Outcomes as follows: 1. Compact Growth 2. Enhanced Regional Accessibility 3. Strengthened Rural Economies and Communities 4. Sustainable Mobility 5. A Strong Economy, supported by Enterprise, Innovation and Skills 6. High-Quality International Connectivity 7. Enhanced Amenity and Heritage 8. Transition to a Low-Carbon and Climate-Resilient Society 9. Sustainable Management of Water and other Environmental Resources 10. Access to Quality Childcare, Education and Health Services	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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Planning, Land Use and Transport Outlook 2040 [in preparation]	The PLUTO will take account of forecasted future economic and demographic scenarios, affordability considerations and relevant Government policies and will: 1. Quantify in broad terms the appropriate scale of financial investment in land transport over the long term; 2. Consider how fiscal, environmental and technological developments might impact on this investment; and, 3. Identify strategic priorities for future investment to ensure land transport infrastructure provision facilitates the objectives of Project Ireland 2040.	In preparation	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Planning and Development Act 2000 (as amended)	• The core principal objectives of this Act are to amend the Planning Acts of 2000 – 2009 with specific regard given to supporting economic renewal and sustainable development.	• Development, with certain exceptions, is subject to development control under the Planning Acts and the local authorities grant or refuse planning permission for development, including ones within protected areas. • There are, however, a range of exemptions from the planning system. Use of land for agriculture, peat extraction and afforestation, subject to certain thresholds, is generally exempt from the requirement to obtain planning permission. • Additionally, Environmental Impact Assessment (EIA) is required for a range of classes and large-scale projects. • Under planning legislation, Development Plans must include mandatory objectives for the conservation of the natural heritage and for the conservation of European sites and any other sites which may be prescribed. There are also discretionary powers to set objectives for the conservation of a variety of other elements of the natural heritage.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004 (S.I. 435 of 2004), as amended by S.I. 200 of 2011	• The purpose of these Regulations is to transpose into Irish law Directive 2001/42/EC of 27 June 2001 (O.J. No. L 197, 21 July 2001) on the assessment of the effects of certain plans and programmes on the environment — commonly known as the Strategic Environmental Assessment (SEA) Directive.	• The Regulations cover plans and programmes in all of the sectors listed in article 3(2) of the Directive except land-use planning. • These Regulations also amend certain provisions of the Planning and Development Act 2000 to provide the statutory basis for the transposition of the Directive in respect of land-use planning. • Transposition in respect of the land-use planning sector is contained in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011, as amended)	• These Regulations provide a new for the implementation in Ireland of Council Directive 92/43/EEC on habitats and protection of wild fauna and flora (as amended) and for the implementation of Directive 2009/147/EC of the European Parliament and of the Council on the protection of wild birds.	• They provide, among other things, for: the appointment and functions of authorized officers; identification, classification and other procedures relative to the designation of Community sites. • The Regulations have been prepared to address several judgments of the CJEU against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waste Management Act 1996, as amended	• To make provision in relation to the prevention, management and control of waste; to give effect to provisions of certain acts adopted by institutions of the European communities in respect of those matters; to amend the Environmental Protection Agency Act, 1992, and to repeal certain enactments and to provide for related matters.	• The Waste Management Act contains a number of key legal obligations, including requirements for waste management planning, waste collection and movement, the authorisation of waste facilities, measures to reduce the production of waste and/or promote its recovery.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities Environmental Objectives (FPM) Regulations 2009 (S.I 296 of 2009)	• The purpose of these Regulations is to support the achievement of favourable conservation status for freshwater pearl mussels	• Set environmental quality objectives for the habitats of the freshwater pearl mussel populations named in the First Schedule to these Regulations that are within the boundaries of a site notified in a candidate list of European sites, or designated as a Special Area of Conservation, under the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94/1997). • Require the production of sub-basin management plans with programmes of measures to achieve these objectives. • Set out the duties of public authorities in respect of the sub-basin management plans and programmes of measure.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I 9 of 2010), as amended (S.I. No. 366 of 2016)	• To amend the European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9 of 2010) to make further provision to implement Commission Directive 2014/80/EU of 20 June 2014 amending Annex II to Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.	The substances and threshold values set out in Schedule 5 to S.I. No. 9 of 2010 have been reviewed and amended where necessary, based on existing monitoring information and international guidelines on appropriate threshold values. • Part A of Schedule 6 has been amended to include changes to the rules governing the determination of background levels for the purposes of establishing threshold values for groundwater pollutants and indicators of pollution. • Part B of Schedule 6 has been amended to include nitrites and phosphorus (total) / phosphates among the minimum list of pollutants and their indicators which the Environmental Protection Agency (EPA) must consider when establishing threshold values. • Part C of Schedule 6 amends the information to be provided to the Minister by the EPA with regard to the pollutants and their indicators for which threshold values have been established.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014)	• These Regulations, which give effect to Ireland's 3rd Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources	The Regulations include measures such as: • Periods when land application of fertilisers is prohibited • Limits on the land application of fertilisers • Storage requirements for livestock manure; and • Monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Climate Action and Low Carbon Development Act 2015, as amended	• An Act to provide for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.	When considering a plan or framework, for approval, the Government shall endeavour to achieve the national transition objective within the period to which the objective relates and shall, in endeavouring to achieve that objective, ensure that such objective is achieved by the implementation of measures that are cost effective and shall, for that purpose, have regard to: • The ultimate objective specified in Article 2 of the United Nations Framework Convention on Climate Change done at New York on 9 May 1992 and any mitigation commitment entered into by the European Union in response or otherwise in relation to that objective, • The policy of the Government on climate change, • Climate justice, • Any existing obligation of the State under the law of the European Union or any international agreement referred to in section 2; and • The most recent national greenhouse gas emissions inventory and projection of future greenhouse gas emissions, prepared by the Agency.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Climate Action Plan 2021	• The Climate Action Plan 2021 provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting Ireland on a path to reach net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2021.'	The Plan lists the actions needed to deliver on our climate targets and sets indicative ranges of emissions reductions for each sector of the economy. It will be updated annually, including in 2022, to ensure alignment with Ireland's legally binding economy-wide carbon budgets and sectoral ceilings.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
The Sustainable Development Goals National Implementation Plan (2018 – 2020)	• National Implementation Plan 2018 – 2020 is in direct response to the 2030 Agenda for Sustainable Development and provides a whole-of-government approach to implement the 17 Sustainable Development Goals (SDGs). • The Plan provides an 'SDG Matrix' which identifies the responsible Government Departments for each of the 169 targets. It also includes an 'SDG Policy Map' indicating the relevant national policies for each of the targets.	The Plan identifies four strategic priorities to guide implementation: • Awareness: raise public awareness of the SDGs; • Participation: provide stakeholders opportunities to engage and contribute to follow-up and review processes, and further develop national implementation of the Goals; • Support: encourage and support efforts of communities and organisations to contribute towards meeting the SDGs, and foster public participation; and • Policy alignment: develop alignment of national policy with the SDGs and identify opportunities for policy coherence.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Infrastructure and Capital Investment Plan (2016-2021)	• €27 billion multi-annual Exchequer Capital Investment Plan, which is supported by a programme of capital investment in the wider State sector, and which over the period 2016 to 2021 will help to lay the foundations for continued growth in Ireland.	• This Capital Plan reflects the Government's commitment to supporting strong and sustainable economic growth and raising welfare and living standards for all. • It includes allocations for new projects across a number of key areas and funding to ensure that the present stock of national infrastructure is refreshed and maintained.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

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			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.
European Union (Birds and Natural Habitats) (Sea-Fisheries) Regulations 2013 (S.I. 290 of 2013)	These regulations have been drafted to implement the responsibilities of the Minister for Agriculture Food and the Marine in relation to sea fisheries in European sites, in accordance with the Habitats and Birds Directives as transposed by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).	• Regulation 3 provides for the submission of a Fisheries Natura Plan in relation to planned fisheries; • Regulation 4 provides for a screening of a Fisheries Natura Plan to determine whether or not an appropriate assessment is required; • Regulation 5 provides for an appropriate assessment of a Fisheries Natura Plan and also provides for public and statutory consultation; • Regulation 6 provides for the Minister to make a determination to adopt a Fisheries Natura Plan. The Minister may amend, withdraw or revoke a plan; • Regulation 7 provides for publication of the adopted Fisheries Natura Plan; • Regulation 8 provides for a Risk Assessment of unplanned fisheries and also provides for public and statutory consultation on the assessment; • Regulation 9 provides for the issue of a Natura Declaration to prohibit, restrict including restricting by permit, control, etc. of sea fishing activities; • Regulation 10 provides for Natura Permits to be issued where required by Natura Declarations; and • Regulations 11 to 31 deal with functions of authorised officers and related matters, offences, etc.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Ireland's National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission)	• The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC.	• The NREAP sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Strategy for Renewable Energy (2012-2020)	• The Government's overarching strategic objective is to make renewable energy an increasingly significant component of Ireland's energy supply by 2020, so that at a minimum it will achieve its legally binding 2020 target in the most cost-efficient manner for consumers. • Of critical importance is the role which the renewable energy sector plays in job creation and economic activity as part of the Government's action plan for jobs.	This document sets out five strategic goals, reflecting the key dimensions of the renewable energy challenge to 2020: • Increasing on and offshore wind, • Building a sustainable bioenergy sector, • Fostering R&D in renewables such as wave & tidal, • Growing sustainable transport; and • Building out robust and efficient networks.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Governments White Paper 'Ireland's Transition to a Low Carbon Energy Future' (2015 – 2030)	The White Paper sets out a vision and a framework to guide Irish energy policy between now and 2030. A complete energy policy update informed by the vision to transform Ireland into a low carbon society and economy by 2050.	2030 will represent a significant milestone, meaning: Reduced GHG emissions from the energy sector by between 80% and 95% Ensuring that secure supplies of competitive and affordable energy remain available to citizens and businesses.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Policy Position on Climate Action and Low Carbon Development (2014)	• The National Policy Position provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to move to a low carbon economy by 2050. • Statutory authority for the plans is set out in the Climate Action and Low Carbon Development Act 2015, as amended.	National climate policy in Ireland: • Recognises the threat of climate change for humanity; • Anticipates and supports mobilisation of a comprehensive international response to climate change, and global transition to a low-carbon future; • Recognises the challenges and opportunities of the broad transition agenda for society; and • Aims, as a fundamental national objective, to achieve transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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National Clean Air Strategy [in preparation]	The Clean Air Strategy will provide the strategic policy framework necessary to identify and promote integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives.	• Having a National Strategy will provide a policy framework by which Ireland can develop the necessary policies and measures to comply with new and emerging EU legislation. • The Strategy should also help tackle climate change. • The Strategy will consider a wider range of national policies that are relevant to clean air policy such as transport, energy, home heating and agriculture. • In any discussion relating to clean air policy, the issue of people's health is paramount and this will be a strong theme of the Strategy.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
EirGrid's Grid25 Strategy and associated Grid25 Implementation Programme 2017-2022	EirGrid's mission is to develop, maintain and operate a safe, secure, reliable, economical and efficient transmission system for Ireland; "*Our vision is of a grid developed to match future needs, so it can safely and reliably carry power all over the country to the major towns and cities and onwards to every home, farm and business where the electricity is consumed and so it can meet the needs of consumers and generators in a sustainable way."*	• Grid25, EirGrid's roadmap to uprate the electricity transmission grid by 2025, continues to be implemented so as to increase the capacity of the grid, to satisfy future demand, and to help Ireland meet its target of 40 per cent of electricity from renewable energy by 2020.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
All Island Grid Study 2008	• The All Island Grid Study is the first comprehensive assessment of the ability of the electrical power system and, as part of that, the transmission network ("the grid") on the island of Ireland to absorb large amounts of electricity produced from renewable energy sources. • The objective of this five-part study is to assess the technical feasibility and the relative costs and benefits associated with various scenarios for increased shares of electricity sourced from renewable energy in the all island power system.	Key conclusions of the study: • The presented results indicate that the differences in cost between the highest cost and the lowest cost portfolios are low (7%), given the assumptions made and costs included in the Study. • All but the high coal-based portfolio lead to significant reductions of CO_2 emissions compared to portfolio 1 • All but the high coal-based portfolio lead to reductions on the dependency of the all island system on fuel and electricity imports. • The limitations of the study may overstate the technical feasibility of the portfolios analysed and could impact the costs and benefits resulting. Further work is required to understand the extent of such impact. • Timely development of the transmission networks, requiring means to address the planning challenge, is a precondition for implementation of the portfolios considered. • Market mechanisms must facilitate the installation of complementary, i.e. flexible, dispatchable plant, so as to maintain adequate levels of system security.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Strategy for the Future Development of National and Regional Greenways (2018)	• The objective of this Strategy is to assist in the strategic development of nationally and regionally significant Greenways in appropriate locations constructed to an appropriate standard in order to deliver a quality experience for all Greenways users. • It also aims to increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity.	• A Strategic Greenway network of national and regional routes, with a number of high capacity flagship routes that can be extended and/or link with local Greenways and other cycling and walking infrastructure; • Greenways of scale and appropriate standard that have significant potential to deliver an increase in activity tourism to Ireland and are regularly used by overseas visitors, domestic visitors and locals thereby contributing to a healthier society through increased physical activity; • Greenways that provide a substantially segregated off road experience linking places of interest, recreation and leisure in areas with beautiful scenery of different types with plenty to see and do; and • Greenways that provide opportunities for the development of local businesses and economies, and • Greenways that are developed with all relevant stakeholders in line with an agreed code of practice.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Water Resources Plan [in preparation]	• The NWRP is a plan on how to provide a safe, secure and reliable water supply to customers for the next 25 years, without causing adverse impact on the environment. • The objective of the NWRP is to set out how we intend to maintain the supply and demand for drinking water over the short, medium and long term whilst minimising the impact on the environment.	The key objectives of the plan are to: • Identify areas where there are current and future potential water supply shortfalls, taking into account normal and extreme weather conditions • Assess the current and future water demand from homes, businesses, farms, and industry • Consider the impacts of climate change on Ireland's water resources • Develop a drought plan advising measures to be taken before and during drought events • Develop a plan detailing how we deal with the material that is produced as a result of treating drinking water • Identify, develop and assess options to help meet potential shortfalls in water supplies • Assess the water resources available at a national level including lakes, rivers and groundwater	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Strategic Plan for Aquaculture Development (2014-2020)	Vision: *"Aquaculture in RC is economically, socially and ecologically sustainable, with a developed infrastructure, strong human potentials and an organized*	General development and growth objectives of marine and freshwater aquaculture (2014 – 2020):	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-

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	market. The consumption of aquaculture products is equal or above EU average, while the technological development of the sector is among the best in the EU."	• Strengthen the social, business and administrative environment for aquaculture development • Increase in the total production to 24,050 tonnes while adhering to the principles of economic, social and ecological sustainability • Improvement of the perception and increase in the national consumption of National products	combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Construction 2020, A Strategy for a Renewed Construction Sector	• Construction 2020 sets out a package of measures agreed by the Government and is aimed at stimulating activity in the building industry. • The Strategy aims both to increase the capacity of the sector to create and maintain jobs, and to deliver a sustainable sector, operating at an appropriate level. It seeks to learn the lessons of the past and to ensure that the right structures and mechanisms are in place so that they are not repeated.	This Strategy therefore addresses issues including: • A strategic approach to the provision of housing, based on real and measured needs, with mechanisms in place to detect and act when things are going wrong; • Continuing improvement of the planning process, striking the right balance between current and future requirements; • The availability of financing for viable and worthwhile projects; • Access to mortgage finance on reasonable and sustainable terms; • Ensuring we have the tools we need to monitor and regulate the sector in a way that underpins public confidence and worker safety; • Ensuring a fit for purpose sector supported by a highly skilled workforce achieving high quality and standards; and • Ensuring opportunities are provided to unemployed former construction workers to contribute to the recovery of the sector.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Sustainable Development: A Strategy for Ireland (1997)	• The overall aim of this Strategy is to ensure that economy and society in Ireland can develop to their full potential within a well-protected environment, without compromising the quality of that environment, and with responsibility towards present and future generations and the wider international community.	• The Strategy addresses all areas of Government policy, and of economic and societal activity, which impact on the environment. It seeks to re-orientate policies as necessary to ensure that the strong growth Ireland enjoys and seeks to maintain will be environmentally sustainable.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Landscape Strategy for Ireland 2015-2025 and National Landscape Character Assessment (pending preparation)	• The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions. • Landscape Strategy Vision: *"Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning."*	The objectives of the National Landscape Strategy are to: • Implement the European Landscape Convention by integrating landscape into the approach to sustainable development; • Establish and embed a public process of gathering, sharing and interpreting scientific, technical and cultural information in order to carry out evidence-based identification and description of the character, resources and processes of the landscape; • Provide a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local level, together with civil society, to protect, manage and properly plan through high quality design for the sustainable stewardship of the landscape; • Ensure that we take advantage of opportunities to implement policies relating to landscape use that are complementary and mutually reinforcing and that conflicting policy objectives are avoided in as far as possible.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Ireland's National Waste Policy 2020 – 2025	The Policy sets out new targets to tackle waste and move towards a circular economy.	The plan includes halving our food waste by 2030, the introduction of a deposit and return scheme for plastic bottles and cans, a ban on certain single use plastics from July 2021, and a levy on disposable cups. Other measures include applying green criteria and circular economy principles in all public procurement, a waste recovery levy to encourage recycling, and ensuring all packaging is reusable or recyclable by 2030.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Hazardous Waste Management Plan (EPA) 2014-2020	This Plan sets out the priorities to be pursued over the next six years and beyond to improve the management of hazardous waste, taking into account the progress made since the previous plan and the waste policy and legislative changes that have occurred since the previous plan was published. Section 26 of the Waste Management Act 1996 as amended, sets out the overarching objectives for the National Hazardous Waste Management Plan. In this context, the following objectives are included as priorities for the revised Plan period: • 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;	The revised Plan makes 27 recommendations under the following topics: • Prevention • Collection • Self-sufficiency • Regulation • Legacy issues • North-south cooperation • Guidance and awareness • Implementation	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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	• 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.		
Ministerial Guidelines such as Sustainable Rural Housing Guidelines and Flood Risk Management Guidelines	• The Department produces a range of guidelines designed to help planning authorities, An Bord Pleanála, developers and the general public and cover a wide range of issues amongst others, architectural heritage, child care facilities, landscape, quarries and residential density.	• The Minister issues statutory guidelines under Section 28 of the Act which planning authorities and An Bord Pleanála are obliged to have regard to in the performance of their planning functions.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
HSE Healthy Ireland Framework for Improved Health and Wellbeing 2013-2025	• The vision is: *"A Healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility."*	These four goals are interlinked, interdependent and mutually supportive: • Goal 1: Increase the proportion of people who are healthy at all stages of life • Goal 2: Reduce health inequalities • Goal 3: Protect the public from threats to health and wellbeing • Goal 4: Create an environment where every individual and sector of society can play their part in achieving a healthy Ireland	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Our Sustainable Future: A framework for Sustainable Development for Ireland 2012	A medium to long term framework for advancing sustainable development and the green economy in Ireland. It identifies spatial planning as a key challenge for sustainable development and sets a series of measures to address these challenges.	• Sets out the challenges facing us and how we might address them in making sure that quality of life and general wellbeing can be improved and sustained in the decades to come.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Investing in our Future: A Strategic Framework for Investment in Land Transport (SFILT) – Department of Transport, Tourism and Sport	• SFILT sets out a set of priorities to guide the allocation of the State's investment to best develop and manage Ireland's land transport network over the coming decades.	The three priorities stated in SFILT are: • Priority 1: Achieve steady state maintenance (meaning that the maintenance and renewal of the existing transport system is at a sufficient level to maintain the system in an adequate condition); • Priority 2: Address urban congestion; and • Priority 3: Maximise the value of the road network. In delivering on the steady state maintenance objective set out in SFILT, the Plan includes for: • Planned replacement programme for the bus fleet operated under Public Service Obligation ("PSO") contracts; • Tram refurbishment and asset renewal in the case of light rail; and • To the extent within the Authority' remit, support for the operation of the existing rail network within the GDA.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

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		• Creating a stable attractive environment for hydrocarbon exploration and production • Being prepared for energy supply disruptions	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.
National Adaptation Framework (NAF) 2018 and associated regional, local and sectoral adaptation plans	• NAF specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur	• Adaptation under this Framework should seek to minimise costs and maximise the opportunities arising from climate change. • Adaptation actions range from building adaptive capacity (e.g. increasing awareness, sharing information and targeted training) through to policy and finance-based actions. • Adaptation actions must be risk based, informed by existing vulnerabilities of our society and systems and an understanding of projected climate change. • Adaptation actions taken to increase climate resilience must also consider impacts on other sectors and levels of governance	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
2030 Climate and Energy Framework	Adopted October 2014, includes EU-wide targets and policy objectives for the period from 2021 to 2030.	Key targets for 2030: • At least 40% cut in greenhouse gas emissions (from 1990 levels). • At least 32% share for renewable energy. This was revised upwards in 2018. • At least 32.5% improvement in energy efficiency. This was revised upwards in 2018.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Renewable Energy Action Plan (2010)	• Sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.	Including Ireland's 16% target of gross final consumption to come from renewables by 2020.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Energy Efficiency Action Plan for Ireland (2009 – 2020)	• 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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Energy & Climate Plan (NECP) 2021 – 2030	Irelands National Energy & Climate Plan (NECP) 2021-2030 takes into account energy and climate policies developed up to 2019, the levels of demographic and economic growth identified in the National Planning Framework - Project 2040 and includes all of the climate and energy measures as set out in the National Development Plan 2018-2027.	The planned policies and measures that were identified up to the end of 2019, collectively deliver a 30% reduction by 2030 in non-Emission Trading Systems greenhouse gas emissions (from 2005 levels). Ireland is committed to achieving a 7% annual average reduction in greenhouse gas emissions between 2021 and 2030. The NECP was drafted in line with the current EU effort-sharing approach, before the Government committed to this higher level of ambition, and therefore does not reflect this higher commitment. Ireland is currently developing those policies and measures and intends to integrate the revision of the NECP into the process which will be required for increasing the overall EU contribution under the Paris Agreement.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with

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			other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
Actions for Biodiversity (2017-2021) Ireland's National Biodiversity Plan	• 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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Broadband Plan (2012)	• Sets out the strategy to deliver high speed broadband throughout Ireland.	The Plan sets out: • A clear statement of Government policy on the delivery of High-Speed Broadband. • Specific targets for the delivery and rollout of high-speed broadband and the speeds to be delivered. • The strategy and interventions that will underpin the successful implementation of these targets. • A series of specific complementary measures to promote implementation of Government policy in this area.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003) **European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)** **European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)**	• Transpose 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.	• Requires the public to be informed and consulted on the Plan and for progress reports to be published on River Basin Districts (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. • Outlines environmental objectives to be achieved for surface water bodies. • Outlines surface water quality standards. • Establishes threshold values for the classification and protection of surface waters against pollution and deterioration in quality.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)	• Transpose 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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

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Water Services Act 2007 **Water Services (Amendment) Act 2012** **Water Services Act (No. 2) 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.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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 the Future.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas	• Aims to meet nature conservation obligations while having regard to national and local economic, social and cultural needs	• Ensure that the implications of management choices for water levels, quantity and quality are fully explored, understood and factored into policy making and land use planning. • Review the current raised bog NHA network in terms of its contribution to the national conservation objective for raised bog habitats and determine the most suitable sites to replace the losses of active raised bog habitat and high bog areas within the SAC network and to enhance the national network of NHAs.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Food Harvest 2020	• Food Harvest 2020 is a roadmap for the Irish food industry, as it seeks to innovate and expand in response to increased global demand for quality foods. It sets out a vision for the potential growth in agricultural output after the removal of milk quotas.	• Seeks for the improvement of all agricultural sectors at all levels in terms of sustainability, environmental consideration and marketing development.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Agri-vision 2015 Action Plan	Outlines the vision for agricultural industry to improve competitiveness and response to market demand while respecting and enhancing the environment	not applicable	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Rural Environmental Protection Scheme (REPS) **Agri-Environmental Options Scheme (AEOS)**	• Agri-environmental funding schemes aimed at rural development for the environmental enhancement and protection. • GLAS is the new replacement for REPS and AEOS which are both expiring.	• Establish best practice farming methods and production methods in order to protect landscapes and maximise conservation. • Protect biodiversity, endangered species of flora and fauna and wildlife habitats. • Ensure food is produced with the highest regard to the environment. • Implement nutrient management plans and grassland management plans. • Protect and maintain water bodies, wetlands and cultural heritage.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

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Green, Low-Carbon, Agri-environment Scheme (GLAS)			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.
National Rural Development Programme	The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas	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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Realising our Rural Potential: The Action Plan for Rural Development 2017	The Plan aims to unlock the potential of rural Ireland through a framework of supports at national and local level which will ensure that people who live in rural areas have increased opportunities for employment locally, and access to public services and social networks that support a high quality of life.	The Plan contains 276 actions across five key pillars. The five pillars are: • Supporting Sustainable Communities, • Supporting Enterprise and Employment, • Maximising our Rural Tourism and Recreation Potential, • Fostering Culture and Creativity in Rural Communities, and • Improving Rural Infrastructure and Connectivity.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
River Basin Management Plan	• The River Basin Management Plan sets out the measures planned to maintain and improve the status of waters.	• Aim to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive. • Identify and manages water bodies in the RBD. • Establish a programme of measures for monitoring and improving water quality in the RBD. • Involve the public through consultations.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Peatlands Strategy (2015-2025)	This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.	Objectives of the Strategy include: • To give direction to Ireland's approach to peatland management. • To apply to all peatlands, including peat soils. • To ensure that the relevant State authorities and state-owned companies that influence such decisions contribute to meeting cross-cutting objectives and obligations in their policies and actions. • To ensure that Ireland's peatlands are sustainably managed so that their benefits can be enjoyed responsible. • To inform appropriate regulatory systems to facilitate good decision making in support of responsible use.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme	• The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.	CFRAM Studies have been 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 Risk and Hazard mapping, including Flood Extent Mapping, was finalised in 2017. The final outputs from the studies are the CFRAM Plans, finalised in 2018. The Plans define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

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			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.
Draft National Bioenergy Plan 2014 - 2020	The Draft Bioenergy Plan sets out a vision as follows: • Bioenergy resources contributing to economic development and sustainable growth, generating jobs for citizens, supported by coherent policy, planning and regulation, and managed in an integrated manner.	Three high level goals, of equal importance, based on the concept of sustainable development are identified: • To harness the market opportunities presented by bioenergy in order to achieve economic development, growth and jobs. • To increase awareness of the value, opportunities and societal benefits of developing bioenergy. • To ensure that bioenergy developments do not adversely impact the environment and its living and non-living resources.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Draft Renewable Electricity Policy and Development Framework (DCCAE) 2016	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Objective: To develop a Policy and Development Framework for renewable electricity generation on land to serve both the All Island Single Electricity Market and any future regional market within the European Union, with particular focus on large scale projects for indigenous renewable electricity generation. This will, inter alia, provide guidance for planning authorities and An Bord Pleanála.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Alternative Fuels Infrastructure for the Transport Sector (DTTAS) 2017- 2030	This Framework sets targets to achieve an appropriate level of alternative fuels infrastructure for transport, which is relative to national policy and Irish market needs. Non-infrastructure-based incentives to support the use of the infrastructure and the uptake of alternative fuels are also included within the scope of the Framework.	Targets for alternative fuel infrastructure include the following: • AFV forecasts • Electricity targets • Natural gas (CNG, LNG) targets • Hydrogen targets • Biofuels targets • LPG targets • Synthetic and paraffinic fuels targets	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Food Wise 2025 (DAFM)	Food Wise 2025 sets out a ten-year plan for the agri-food sector. It underlines the sector's unique and special position within the Irish economy, and it illustrates the potential which exists for this sector to grow even further.	Food Wise 2025 identifies ambitious and challenging growth projections for the industry over the next ten years including: • 85% increase in exports to €19 billion. • 70% increase in value added to €13 billion. • 60% increase in primary production to €10 billion. • The creation of 23,000 additional jobs all along the supply chain from producer level to high-end value-added product development.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Cycle Network Scoping Study 2010	• 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	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Policy Framework for Alternative Fuels Infrastructure for Transport in Ireland 2017 to 2030	• This National Policy Framework on Alternative Fuels Infrastructure for Transport represents the first step in communicating our longer-term national vision for decarbonising transport by 2050, the cornerstone of which is our ambition that by 2030 all new cars and vans sold in Ireland will be zero-emissions capable.	This policy set out to achieve five key goals in transport: • Reduce overall travel demand • Maximise the efficiency of the transport network • Reduce reliance on fossil fuels • Reduce transport emissions • Improve accessibility to transport	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with

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	• By 2030 it is envisaged that the movement in Ireland to electrically-fuelled cars and commuter rail will be well underway, with natural gas and biofuels developing as major alternatives in the freight and bus sectors.	These goals remain the cornerstone of transport policy and are fully aligned to the objectives of this National Policy Framework.	other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
Tourism Action Plan 2019-2021	The Tourism Action Plan 2019-2021 sets out actions that the Tourism Leadership Group has identified as priorities to be progressed until 2021 in order to maintain sustainable growth in overseas tourism revenue and employment. Each action involves specific tourism stakeholders, both in the public and private sectors, all of whom we expect to proactively work towards the completion of actions within the specified timeframe.	The Plan contains 27 actions focusing on the following areas: • Policy Context • Marketing Ireland as a Visitor Destination • Enhancing the Visitor Experience • Research in the Irish Tourism Sector • Supporting Local Communities in Tourism • Wider Government Policy • International Context • Co-ordination Structures	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Tourism Policy Statement: People, Place and Policy – Growing Tourism to 2025	The main goal of this policy statement is to have a vibrant, attractive tourism sector that makes a significant contribution to employment across the country; is economically, socially and environmentally sustainable; helps promote a positive image of Ireland overseas, and is a sector in which people want to work.	The Tourism Policy Statement sets three headline targets to be achieved by 2025: • Overseas tourism revenue of €5 billion per year • net of inflation excluding carrier receipts; • 250,000 people employed in tourism; and • 10 million overseas visitors to Ireland per year.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Draft Renewable Electricity Policy and Development Framework (DCCAE)	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Objective: To develop a Policy and Development Framework for renewable electricity generation on land to serve both the All Island Single Electricity Market and any future regional market within the European Union, with particular focus on large scale projects for indigenous renewable electricity generation. This will, inter alia, provide guidance for planning authorities and An Bord Pleanála. Methodology: Development of the Policy and Development Framework is to be informed by the carrying out of an SEA, including widespread consultation with stakeholders and public, and with AA under the Habitats Directive.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Alternative Fuels Infrastructure for the Transport Sector (DTTAS) 2017- 2030	This Framework sets targets to achieve an appropriate level of alternative fuels infrastructure for transport, which is relative to national policy and Irish market needs. Non-infrastructure-based incentives to support the use of the infrastructure and the uptake of alternative fuels are also included within the scope of the Framework.	Targets for alternative fuel infrastructure include the following: • AFV forecasts • Electricity targets • Natural gas (CNG, LNG) targets • Hydrogen targets • Biofuels targets • LPG targets Synthetic and paraffinic fuels targets	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
People Place and Policy - Growing Tourism to 2025, (DTTAS, 2014)	Growing Tourism to 2025 is a policy framework for the development of tourism within the Country.	The framework establishes the overall tourism goal of Government; • Employment in the tourism sector will be 250,000 by 2025, compared with around 200,000 at present. • There will be 10 million visits to Ireland annually by 2025. The Government's ambition is that overseas tourism revenue will reach €5 billion in real terms by 2025.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waterways Ireland Heritage Plan 2016-2020	The overarching aim of the Plan is to: *"Identify and protect the unique waterways heritage and promote its sustainable use for the enjoyment of this and future generations".*	Four objectives of the Plan include the following: • Objective 1: Fostering partnerships to continue building waterway heritage knowledge through storing information, undertaking research and developing best practice. • Objective 2: Promoting awareness, appreciation and enjoyment of our waterway heritage with a focus on community engagement. • Objective 3: Promoting the integrated management, conservation, protection and sustainable use of the inland navigable waterway asset.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

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		• Objective 4: To develop Waterways Ireland as a heritage organisation committed to achieving the aim of this plan.	achievement of the objectives of the regulatory framework for environmental protection and management.
Tourism Development and Innovation – A Strategy for Investment 2016-2022, (Fáilte Ireland, 2016)	This strategy sets out the framework and mechanism for the delivery of investment to cities, towns, villages, communities and businesses across the country. It identifies priorities to support innovation in the sector to retain and grow the country's competitiveness in the marketplace. Its ultimate aim is to strengthen the appeal of Ireland for international visitors.	The objectives of the Tourism Development and Innovation Strategy are: • To successfully and consistently deliver a world class visitor experience; • To support a tourism sector that is profitable and achieves sustainable levels of growth and delivers jobs; • To facilitate communities to play an enhanced role in developing tourism in their locality, thereby strengthening and enriching local communities; and • To recognise, value and enhance Ireland's natural environment as the cornerstone of Irish tourism.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Aquaculture Acts 1997 to 2006 (Sea-Fisheries and Maritime Jurisdiction Act 2006 (8/2006), s. 1(3)), Fisheries (Amendment) Act 1997 (23/1997), Fisheries and Foreshore (Amendment) Act 1998 (54/1998), ss. 2, 3 and 4, Fisheries (Amendment) Act 2001 (40/2001) Sea-Fisheries and Maritime Jurisdiction Act 2006 (8/2006)	The Aquaculture and Foreshore Management Division ensures the efficient and effective management of Aquaculture licensing and Foreshore licensing in respect of Aquaculture and Sea Fishery related activities.	The Strategic Objectives of the Aquaculture and Foreshore Management Division are: • to develop and manage an efficient and effective regulatory framework in respect of Aquaculture licensing and Foreshore licensing of Aquaculture and Sea Fishery related activities; • to secure a fair financial return from the State's foreshore estate in the context of Aquaculture licensing and Foreshore licensing in respect of Aquaculture and Sea Fishery related activities; to progressively reduce arrears in the clearing of licence applications.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Foreshore Acts 1933 to 2011	The Foreshore Acts require that a lease or licence must be obtained from the Minister for Housing, Planning and Local Government for the carrying out of works or placing structures or material on, or for the occupation of or removal of material from, State-owned foreshore, which represents the greater part of the foreshore. Construction of permanent structures on privately owned foreshore also required the prior permission of the Minister under the Foreshore Act.	• Developments on the foreshore require planning permission in addition to a Foreshore Lease/Licence/Permission. All Foreshore Leases, Licences • Permissions are without prejudice to the powers of the local planning authority. Applicants should, therefore, consult initially with the local planning authority regarding their proposal. • In the case of developments on foreshore for, by or on behalf of a Local Authority where an EIS is required, applications should be made to An Bord Pleanála under Part XV, Planning and Development Act 2000.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Marine Planning Development Management Bill (General Scheme), 2019	The Bill seeks to establish in law a completely new regime for the maritime area which will replace existing State and development consent regimes and streamline arrangements on the basis of a single consent principle.	One of the aims is to establish a legal basis for An Bord Pleanála and coastal local authorities to consent to development in the maritime area, while retaining existing foreshore and planning permission provisions for aquaculture and sea fisheries related development. It will also provide for a single environmental impact assessment (EIA) and a single appropriate assessment (AA), where applicable.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
National Seafood Operational Programme (2014-2020)	The Operational Programme (OP) supported by the European Maritime and Fisheries Fund (EMFF) in Ireland aims at achieving key national development priorities along with the EU's "Europe 2020" objectives. The OP supports the general reform of the EU's Common Fisheries Policy (CFP) and the development of its Integrated Maritime Policy (IMP) in Ireland. The OP strategy is designed around the Irish national priorities in the agri-food sector: 'Act Smart' by encouraging knowledge and innovation, 'Think Green' through a responsible and sustainable use of resources, 'Achieve Growth' in order to maintain and create jobs.	The Irish OP is organised around priorities including the following • Union Priority 1 (UP1): €67 million (28% of the total allocation) aim at assuring the sustainable development of fishing activities, while protecting the marine environment. • Union Priority 2 (UP2): €30 million (12% of the total allocation) will support the Irish National Strategic Plan for Aquaculture that aims at boosting the competitiveness of the aquaculture sector. • Union Priority 3 (UP3): €84.8 million (35.4% of the total allocation) will go towards compliance with CFP rules regarding control and data collection.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland 2012	Harnessing Our Ocean Wealth is an Integrated Marine Plan (IMP), setting out a roadmap for the Government's vision, high-level goals and integrated actions across policy, governance and business to enable our marine potential to be realised. Implementation of this Plan will see Ireland evolve an integrated system of policy and programme planning for our marine affairs.	• Sustainable economic growth of marine/ maritime sectors; • Increase the contribution to the national GDP; • Deliver a business friendly yet robust governance, policy and planning framework; • Protect and conserve our rich marine biodiversity and ecosystems; • Manage our living and non-living resources in harmony with the ecosystem; • Implement and comply with environmental legislation; • Building on our maritime heritage, strengthen our maritime identity; • Increase our awareness of the value, opportunities and societal benefits; and • Engagement and participation by all.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

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			framework for environmental protection and management.
All Ireland Pollinator Plan 2015-2020 and 2021-2025 (in preparation)	The All-Ireland Pollinator Plan is an island-wide attempt to reverse declines in pollinating insects in order to ensure the sustainability of our food, avoid additional economic impacts on agriculture, and protect the health of the environment. The main objectives include: • Making farmland, public land and private land in Ireland pollinator friendly; • Raising awareness of pollinators and how to protect them; • Managed pollinators – supporting beekeepers and growers; • Expanding our knowledge of pollinators and pollination service; and • Collecting evidence to track change and measure success.	• This voluntary Plan identified 81 actions, shared out between over 100 governmental and non-governmental organisations. • A large focus of the Plan is to identify actions to improve the quality and amount of flower-rich habitat. • Actions range from creating pollinator highways along our transport routes, to supporting pollinators on farmland, in gardens, businesses, and on public land.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Regional / County / Local Level			
Southern Regional Economic and Spatial Strategy 2020-2032	The Regional Spatial and Economic Strategy provides a long-term strategic planning and economic framework for the Southern Region in order to support the implementation of the National Planning Framework.	The Southern Regional Economic and Spatial Strategy includes provisions for its nine constituent local authorities: Waterford City and County Council, Cork City Council, Cork County Council, Tipperary County Council, Wexford County Council, Kerry County Council, Clare County Council, Limerick City and County Council, Kilkenny County Council and Carlow County Council.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Integrated Implementation Plan 2019-2024	The priorities in the Integrated Infrastructure Plan align with the objectives and priorities set out in the Greater Dublin Transport Strategy 2016-2035, focused on improving public and sustainable transport. While the bulk of the Plan relates solely to the Greater Dublin Area, certain areas such as public transport services and activities related to small public service vehicles are dealt with on a national basis.	The Implementation Plan identifies investment proposals for a number of areas including: • Bus • Light Rail; • Heavy Rai; • Integration Measures and Sustainable Transport Investment; • Integrated Service Plan; and • Integration and Accessibility.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waterford Planning Landuse and Transport Strategy (PLUTS) 2004 – 2020	The concept of integrated land use and transport planning for the Waterford City.	The development strategy for Waterford City has been guided by the PLUTS since 2004. The PLUTS was initiated to provide a strong planning framework for the development of the City and Environs over the period up to 2020. It provides a coherent long term spatial context, within which more detailed statutory City and County Development Plans are developed.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waterford Metropolitan Transport Strategy (WMATS) [in preparation]	The National Transport Agency (NTA), in conjunction with Waterford City and County Council and Kilkenny County Council has commenced the preparation of the Waterford Metropolitan Transport Strategy (WMATS) in tandem with the review of the County Development Plan. The core objective of the Services is to develop a transport strategy (Transport Strategy) for the Waterford Metropolitan Area (WMA) covering the period 2020 to 2040, and addressing all land transport modes.	The objective of the Transport Strategy is to provide a long-term strategic planning framework for the integrated development of transport infrastructure and services in the WMA.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
NPWS Conservation Plans and/or Conservation Objectives for SACs and SPAs	Management planning for nature conservation sites has a number of aims. These include: • To identify and evaluate the features of interest for a site • To set clear objectives for the conservation of the features of interest • To describe the site and its management • To identify issues (both positive and negative) that might influence the site • To set out appropriate strategies/management actions to achieve the objectives	• Conservation objectives for SACs and SPAs (i.e. sites within the Natura 2000 network) have to be set for the habitats and species for which the sites are selected. • These objectives are used when carrying out appropriate assessments for plans and projects that might impact on these sites.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

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			achievement of the objectives of the regulatory framework for environmental protection and management.
Groundwater Protection Schemes	A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater.	• A Groundwater Protection Scheme aims to maintain the quantity and quality of groundwater, and in some cases improve it, by applying a risk assessment-based approach to groundwater protection and sustainable development.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Land Use Plans (including Development Plans and Local Area Plans) in force within County Waterford and in other adjoining planning authorities	• Outline planning objectives for land use development. • Strategic framework for planning and sustainable development including those set out in National Planning Framework and Southern Regional Economic and Spatial Strategy. • Set out the policies and proposals to guide development in the relevant area.	• Identify future infrastructure, development and zoning required. • Protect and enhances amenities and environment. • Guide planning authority in assessing proposals. • Aim to guide development in the area and the amount of nature of the planned development. • Aim to promote sustainable development. • Provide for economic development and protect natural environmental, heritage.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Local Economic and Community Plans (LECPs), including the 'One Waterford LECP 2015-2020'	• The overarching vision for each LECP is: "to promote the well-being and quality of life of citizens and communities	• The purpose of the LECP, as provided for in the Local Government Reform Act 2014, is to set out, for a six-year period, the objectives and actions needed to promote and support the economic development and the local and community development of the relevant local authority area, both by itself directly and in partnership with other economic and community development stakeholders.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
County Waterford Landscape Character Assessment and Landscape Character Assessments in adjoining counties	Characterises the geographical dimension of the landscape.	• Identifies the quality, value, sensitivity and capacity of the landscape area. • Guides strategies and guidelines for the future development of the landscape.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waterford Heritage Plan 2017-2022	Vision: To increase engagement with, and access to, all aspects of heritage in Waterford City and County and promote conservation, best practice, appreciation and enjoyment of our shared heritage.	Mission: To set out a strategic and co-ordinated approach for heritage in recognition of the benefits that heritage delivers; identifying a sense of place for Waterford, learning lessons from our past to plan for the future and added value for the development of Waterford City and County.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Waterford Noise Action Plan 2019-2023	Noise Action Plans are prepared in accordance with the requirements of the Environmental Noise Regulations 2006, Statutory Instrument 140 of 2006. These Regulations give effect to the EU Directive 2002/49/EC relating to the assessment and management of environmental noise. This Directive sets out a process for managing environmental noise in a consistent manner across the EU and the Noise Regulations set out the approach to meeting the requirements of the Directive in Ireland.	The main purpose of Noise Action Plans is to: Inform and consult the public about noise exposure, its effects and the measures which may be considered to address noise problems Address strategic noise issues by requiring competent authorities to draw up action plans to manage noise issues and their effects Reduce noise, where possible, and maintain the environmental acoustic quality where it is good	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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

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The Waterford City and County Council Climate Change Adaptation Strategy 2019-2024	The Strategy is developed around 4 key themes/goals: 1. Critical Buildings & Infrastructure 2. Natural and Cultural Heritage 3. Water Resources & Flood Risk Management 4. Community Services	The Waterford City and County Council Climate Change Adaptation Strategy 2019-2024 seeks to: • Ensure a proper comprehension of the key risks and vulnerabilities of climate change; • Bring forward the implementation of climate resilient actions in a planned and proactive manner; and • Ensure that climate adaptation considerations are mainstreamed into all plans and policies and integrated into all operations and functions of the LA.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Local Authority Renewable Energy Strategy (LARES)	The Strategy sets out the framework for the delivery of sustainable and renewable energies throughout the County.	The LARES outlines the potential for a range of renewable energy resources and developments and acknowledges the significant contribution that they can make to the county in terms of energy security, reduced reliance on traditional fossil fuels, enabling future energy exports, meeting assigned national targets and the transition to a low carbon economy.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Southern Regional Waste Management Plan 2015-2021	These plans give effect to national and EU waste policy, and address waste prevention and management (including generation, collection and treatment) over the period 2015-2021.	To manage wastes in a safe and compliant manner, a clear strategy, policies and actions are required.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Fáilte Ireland Tourism plans, strategies, including those relating to the Ireland's Ancient East	Fáilte Ireland's work includes preparing various plans and strategies for Ireland's Ancient East and other brands and initiatives. These plans are subject to their own environmental assessment processes and any project arising is required to be consistent with and conform with the provisions of all adopted/approved Statutory Policies, Strategies, Plans and Programmes, including provisions for the protection and management of the environment.	Some of Fáilte Ireland's plans and strategies include various projects relating to land use and infrastructural development, including those relating to development of land or on land and the carrying out of land use activities. Many of these projects exist already while some are not currently in existence. The Statutory Policies, Strategies, Plans and Programmes that provide for different projects undergo a variety of environmental assessments. These assessments ensure that environmental effects are considered, including: those arising from new and intensified uses and activities; and those arising from various sectors such as tourism.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.
Various existing, planned and emerging projects provided for by the above plans and programmes	These projects have been provided for by higher-level plans and programmes.	These projects will contribute towards the development of the area to which the Plan relates and/or wider area and will contribute towards environmental protection and management.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 8.2) may arise. Implementation of the Plan needs 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.

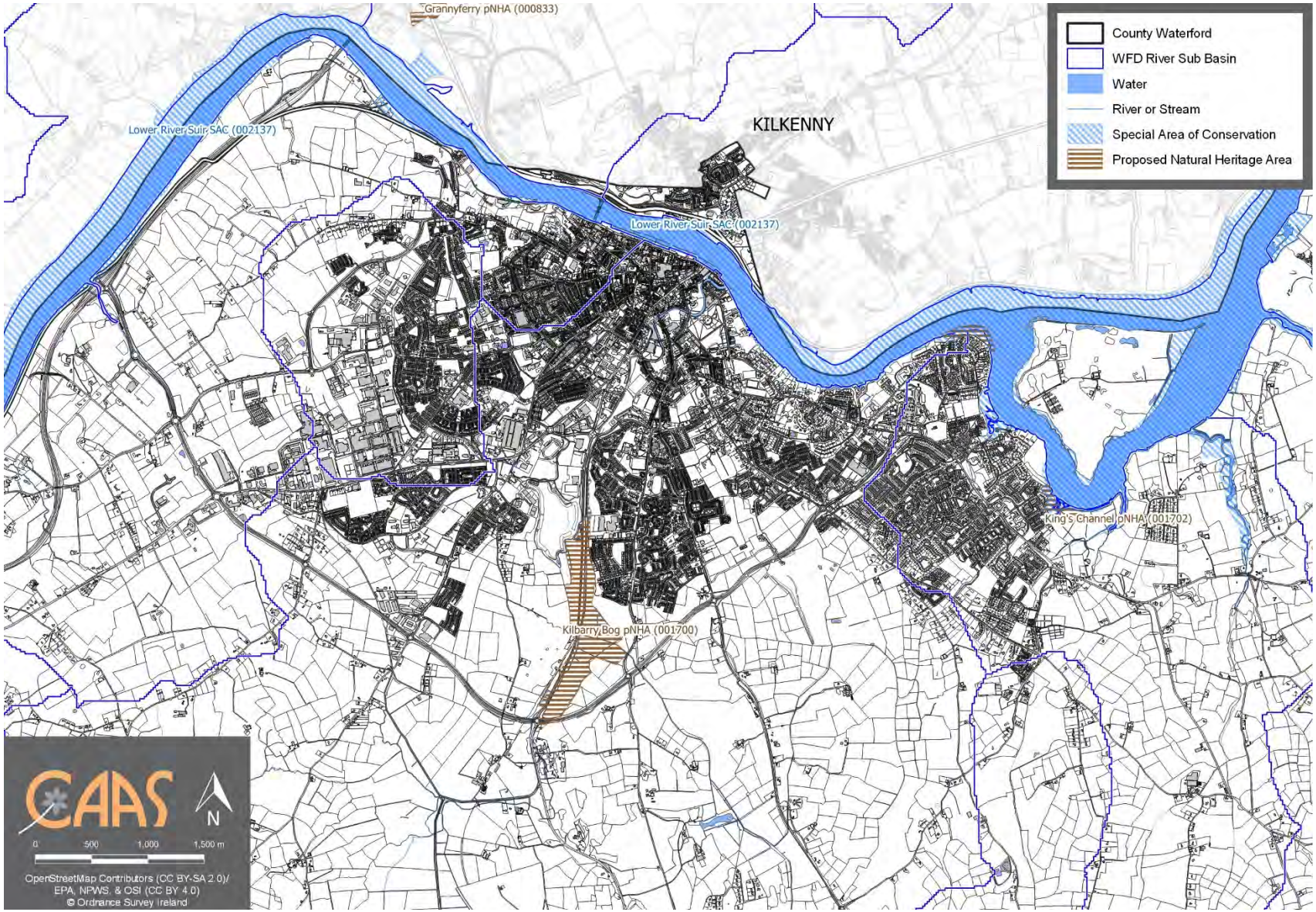
Appendix II Ecological and Geological Designations

SACs (9) and SPAs (6) within County Waterford		
Site Code	**Site Name**	**Sensitive Features**
002123	Ardmore Head SAC	Sensitive features include: vegetated sea cliffs; and dry heath.
002170	Blackwater River (Cork/Waterford) SAC	Sensitive features include: estuaries; tidal mudflats and sandflats; perennial vegetation of stony banks; salicornia mud; Atlantic salt meadows; Mediterranean salt meadows; floating river vegetation; old oak woodlands; alluvial forests; freshwater pearl mussel; white-clawed crayfish; sea lamprey; brook lamprey; river lamprey; twaite shad; Atlantic salmon; otter; and Killarney fern.
001952	Comeragh Mountains SAC	Sensitive features include: oligotrophic waters containing very few minerals; floating river vegetation; wet heath; dry heath; alpine and subalpine heaths; blanket bogs; siliceous scree; calcareous rocky slopes; siliceous rocky slopes; and slender green feather-moss.
002324	Glendine Wood SAC	Sensitive features include: Killarney fern.
000665	Helvick Head SAC	Sensitive features include: vegetated sea cliffs; and dry heath.
002137	Lower River Suir SAC	Sensitive features include: Atlantic salt Meadows; Mediterranean salt meadows; floating river vegetation; hydrophilous tall herb communities; old oak woodlands; alluvial forests; yew woodlands freshwater pearl mussel; white-clawed crayfish; sea lamprey; brook lamprey; river lamprey; twaite shad; Atlantic salmon; and otter.
000668	Nier Valley Woodlands SAC	Sensitive features include: old oak woodlands.
002162	River Barrow and River Nore SAC	Sensitive features include: estuaries; tidal mudflats and sandflats reefs; salicornia mud; Atlantic salt meadows; Mediterranean salt meadows; floating river vegetation; dry heath; hydrophilous tall herb communities; petrifying springs; old oak woodlands; alluvial forests; desmoulin's whorl snail; freshwater pearl mussel; white-clawed crayfish; sea lamprey; brook lamprey; river lamprey; twaite shad; Atlantic salmon; otter; Killarney fern; Nore freshwater pearl mussel.
000671	Tramore Dunes and Backstrand SAC	Sensitive features include: tidal mudflats and sandflats; annual vegetation of drift lines; perennial vegetation of stony banks; salicornia mud; Atlantic salt meadows; Mediterranean salt meadows; embryonic shifting dunes; marram dunes; and fixed dunes.
004094	Blackwater Callows SPA	Sensitive features include: whooper swan; wigeon; teal; black-tailed godwit; wetland and waterbirds.
004028	Blackwater Estuary SPA	Sensitive features include: wigeon; golden plover; lapwing; dunlin; black-tailed godwit; bar-tailed godwit; curlew; redshank; wetland and waterbirds.
004032	Dungarvan Harbour SPA	Sensitive features include: great crested grebe; light-bellied brent goose; shelduck; red-breasted merganser; oystercatcher; golden plover; grey plover; lapwing; knot; dunlin; black-tailed godwit; bar-tailed godwit; curlew; redshank; turnstone; wetland and waterbirds.
004192	Helvick Head to Ballyquin SPA	Sensitive features include: cormorant; peregrine; herring gull; kittiwake; and chough.
004193	Mid-Waterford Coast SPA	Sensitive features include: cormorant; peregrine; herring gull; and chough.
004027	Tramore Back Strand SPA	Sensitive features include: light-bellied brent goose; golden plover; grey plover; lapwing; dunlin; black-tailed godwit; bar-tailed godwit; curlew; wetland and waterbirds.
SACs (5) and SPAs (4) Sites Within 15 km from County Waterford		
Site Code	**Site Name**	**Sensitive Features**
000077	Ballymacoda (Clonpriest and Pillmore) SAC	Sensitive features include: estuaries; tidal mudflats and sandflats salicornia mud; Atlantic salt meadows; and Mediterranean salt meadows.
000404	Hugginstown Fen SAC	Sensitive features include: alkaline fens.
000646	Galtee Mountains SAC	Sensitive features include: wet heath; dry heath; alpine and subalpine heaths; species-rich nardus grassland; blanket bogs; siliceous scree; calcareous rocky slopes; and siliceous rocky slopes.
000697	Bannow Bay SAC	Sensitive features include: estuaries; tidal mudflats and sandflats; annual vegetation of drift lines; perennial vegetation of stony banks; salicornia mud; Atlantic salt meadows; Mediterranean salt meadows; halophilous scrub; embryonic shifting dunes; marram dunes; and fixed dunes.
000764	Hook Head SAC	Sensitive features include: large shallow inlets and bays; reefs; and vegetated sea cliffs.
004022	Ballycotton Bay SPA	Sensitive features include: teal; ringed plover; golden plover; grey plover; lapwing; black-tailed godwit; bar-tailed godwit; curlew; turnstone; common gull; lesser black-backed gull; wetland and waterbirds.
004023	Ballymacoda Bay SPA	Sensitive features include: wigeon; teal; ringed plover; golden plover; grey plover; lapwing; sanderling; dunlin; black-tailed godwit; bar-tailed godwit; curlew; redshank; turnstone; black-headed gull; common gull; lesser black-backed gull; wetland and waterbird.
004033	Bannow Bay SPA	Sensitive features include: : light-bellied brent goose; shelduck; pintail; oystercatcher; golden plover; grey plover; lapwing; knot; dunlin; black-tailed godwit; bar-tailed godwit; curlew; redshank; wetland and waterbirds.
004118	Keeragh Islands SPA	Sensitive features include: cormorant.

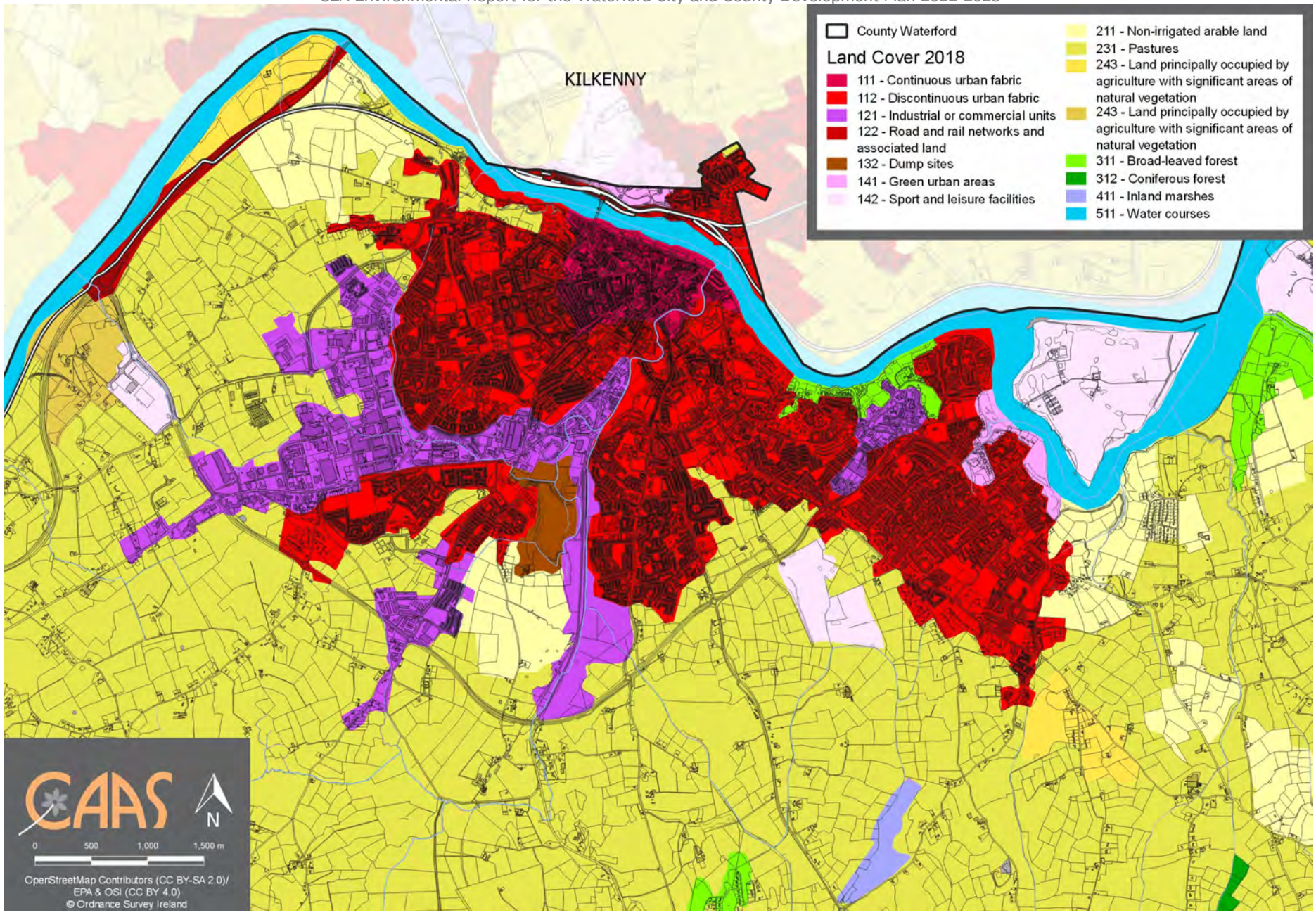
pNHAs (31) within County Waterford			
Site Code	**Site Name**	**Site Code**	**Site Name**
000072	Blackwater River and Estuary pNHA	001691	Ballin Lough (Waterford) pNHA
000073	Blackwater River Callows pNHA	001692	Ballyeelinan Wood pNHA
000399	Lower River Suir (Coolfinn, Portlaw) pNHA	001693	Ballyvoyle Head to Tramore pNHA
000402	Fiddown Island pNHA	001695	Castlecraddock Bog pNHA
000659	Belle Lake pNHA	001697	Fennor Bog pNHA
000660	Carrickavrantry Reservoir pNHA	001698	Glenanna Wood pNHA
000663	Dungarvan Harbour pNHA	001700	Kilbarry Bog pNHA
000664	Dunmore East Cliffs pNHA	001701	Kilsheelin Lake pNHA
000665	Helvick Head pNHA	001702	King's Channel pNHA
000666	Islandtarnsey Fen pNHA	001705	Lissaviron Bog pNHA
000667	Lismore Woods pNHA	001707	Stradbally Woods pNHA
000668	Neir Valley Woodlands pNHA	001708	Toor Wood pNHA
000669	Portlaw Woods pNHA	001933	Glenmore Wood pNHA
000670	Tallow (Disused Church) pNHA	001952	Comeragh Mountains pNHA
000671	Tramore Dunes and Backstrand pNHA	002095	Glencairn pNHA
000787	Waterford Harbour pNHA		

Waterford County Geological Sites (55), including:			
Site code	**Site name**	**Site Code**	**Site Name**
WD001	Ardmore Mine	WD030	Kilmurrin Cove
WD002	Ardoginna	WD031	Knockmahon and Stage Cove
WD003	Ballymacart River	WD033	Stradbally Cove
WD004	Ballynacourty	WD034	Tankardstown Mine
WD005	Ballynahemery Cave	WD035	Croaghaun Hill
WD006	Ballynameelagh Caves	WD036	Drumslig
WD007	Ballynamintra Cave	WD037	Dungarvan Harbour
WD008	Ballynamuck Boreholes	WD038	Dunhill Quarry
WD009	Ballyquin Shore	WD039	Fenor Bog
WD010	Bewley Caves	WD040	Kilgreany Cave
WD011	Blackwater Bend	WD041	Knockalahara Sink
WD012	Bridgequarter Cave	WD042	Knockmealdown Gullies
WD013	Cappagh Quarry	WD043	N25 Road Cuttings
WD014	Carrigmurrish Cave	WD044	Newtown
WD015	Clonea Strand	WD045	Oonagaloor and Brother's Cave
WD016	Comeragh Mountains	WD046	Quillia
WD017	Comeragh Volcanics	WD047	Raheen Shore
WD025	Ballydowane Bay	WD048	Rathmoylan Cove
WD026	Bunmahon Head	WD049	Ross Slate Quarries
WD027	Dunabrattin Head	WD050	Shandon Railway Cutting Cave
WD028	Garrarus Strand	WD051	Sluggera Crossroads
WD029	Kilfarrasy Strand	WD052	St Declans Stone
WD055	Whiting Bay and Goat Island	WD053	Tramore
WD054	Tramore Burrow		

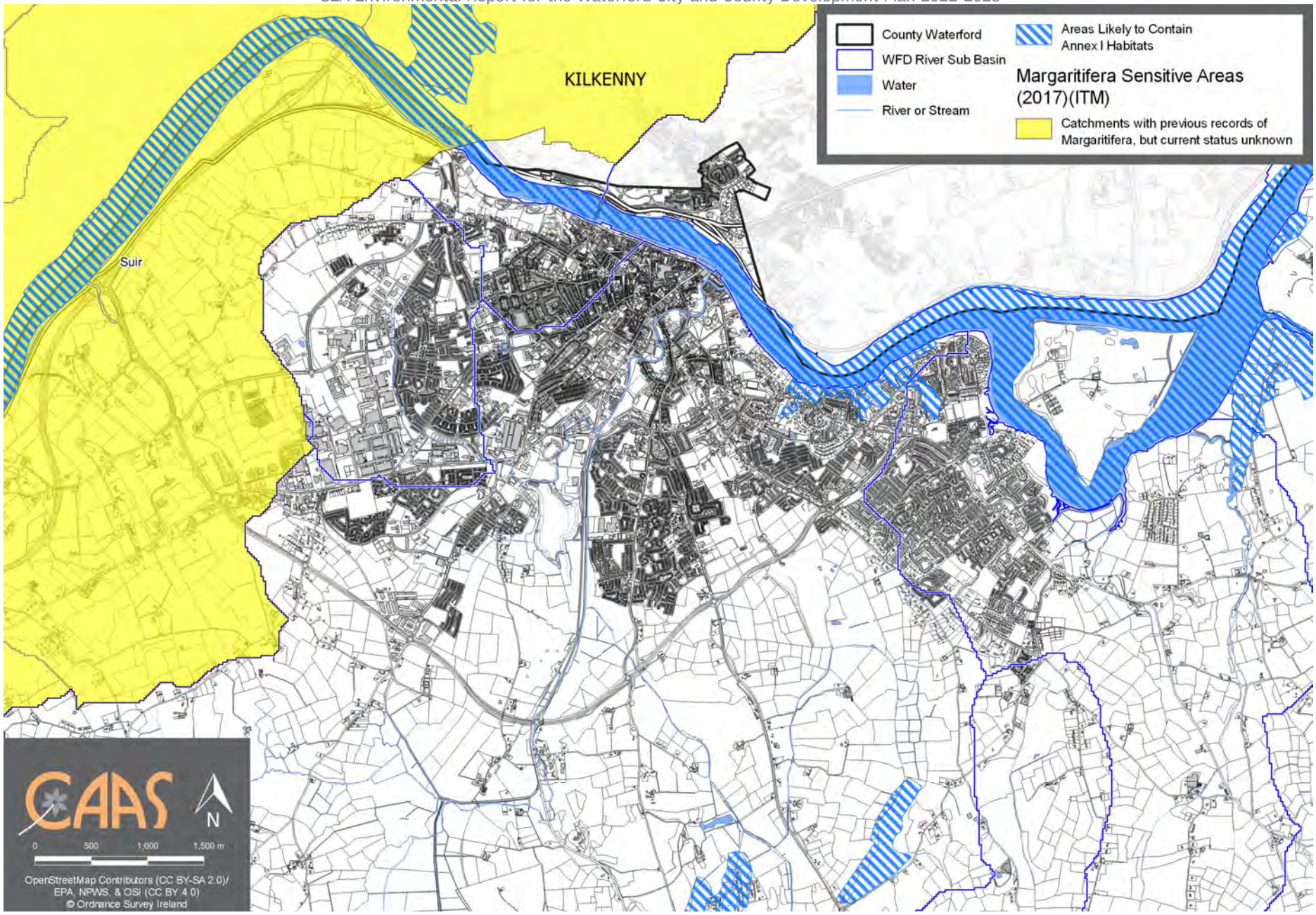
Appendix III Waterford City Maps



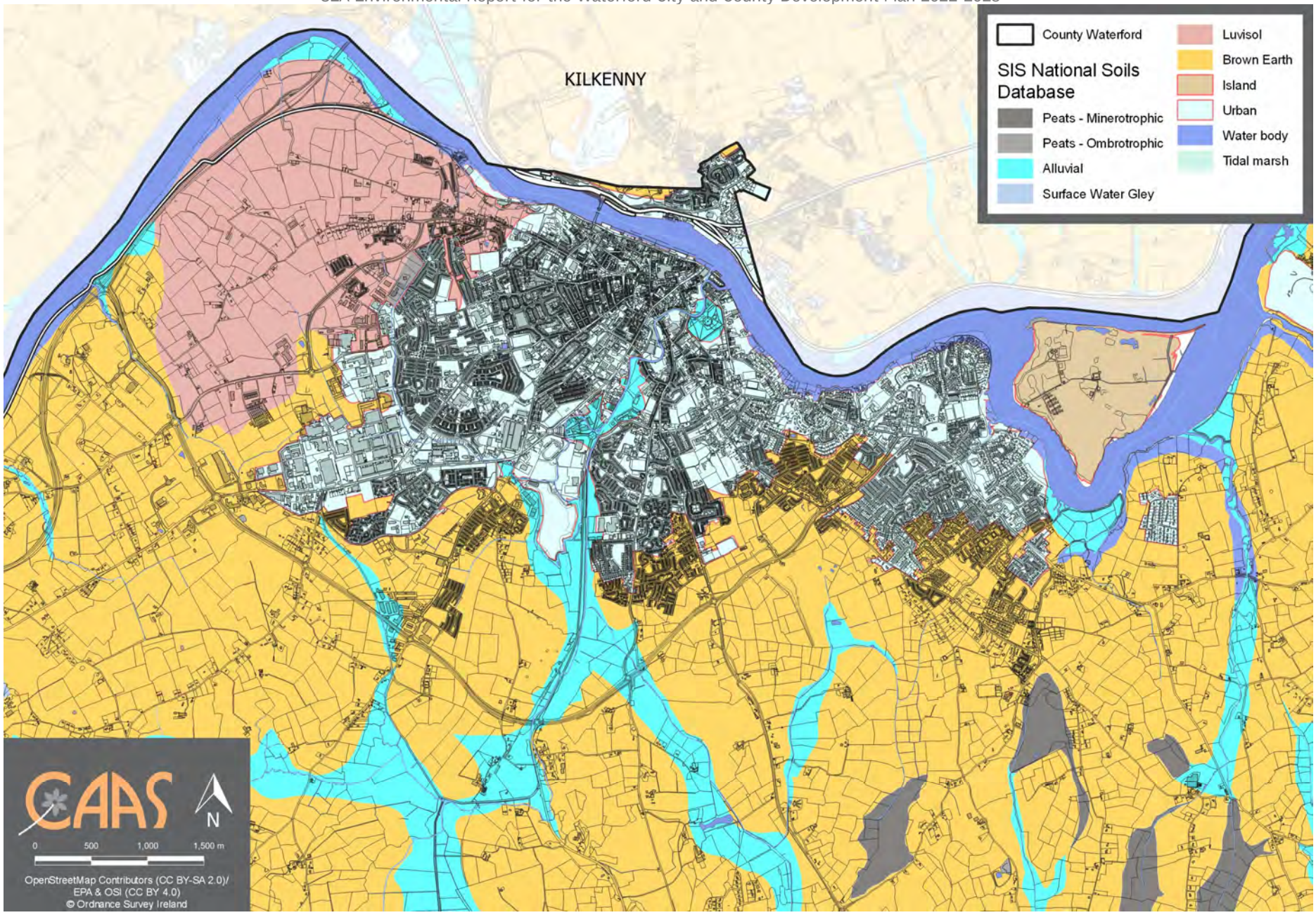
Appendix III Map 1: Special Area of Conservation and Proposed Natural Heritage Area within and adjacent to Waterford City



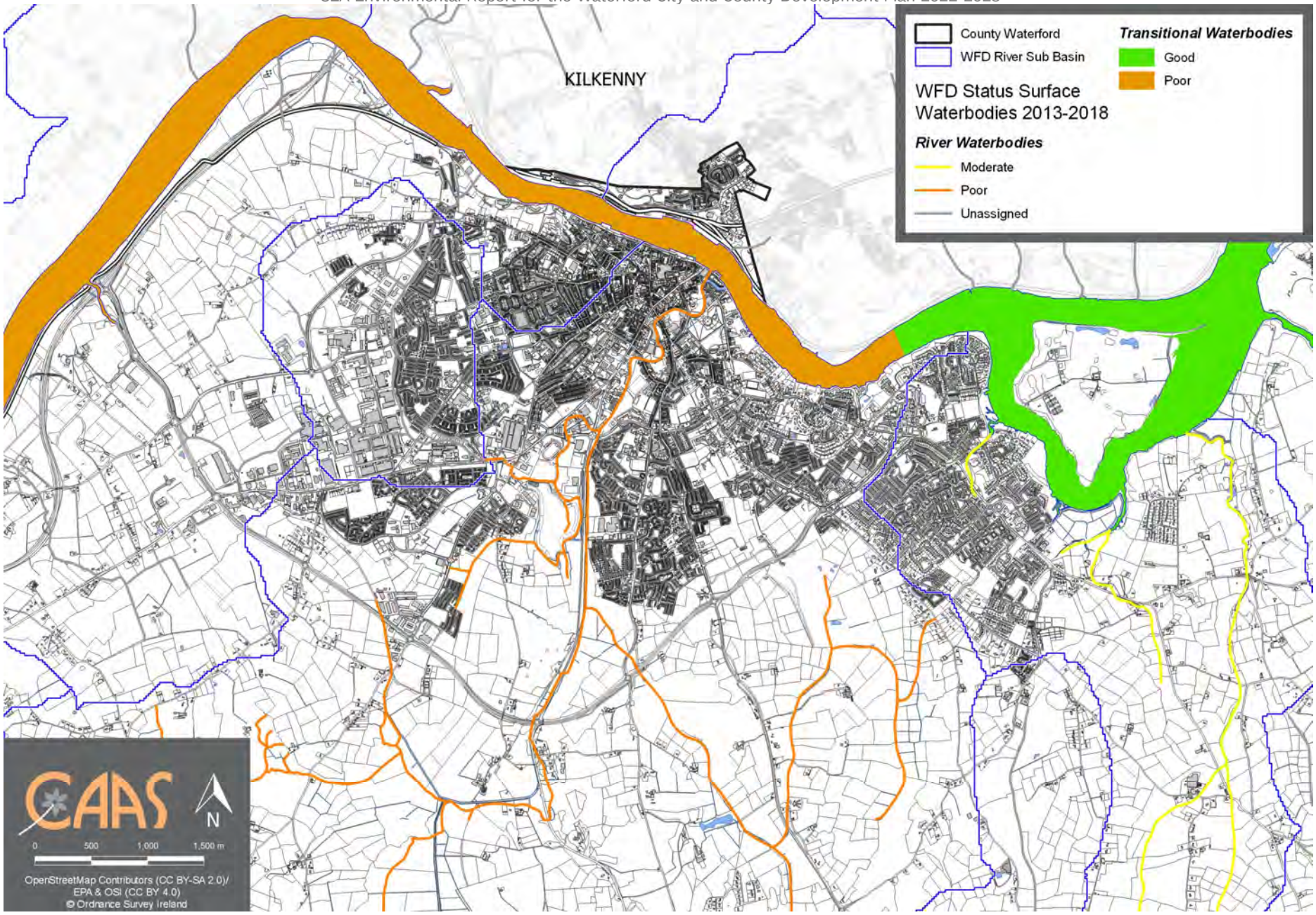
Appendix III Map 2: CORINE Land Cover 2018 within and adjacent to Waterford City



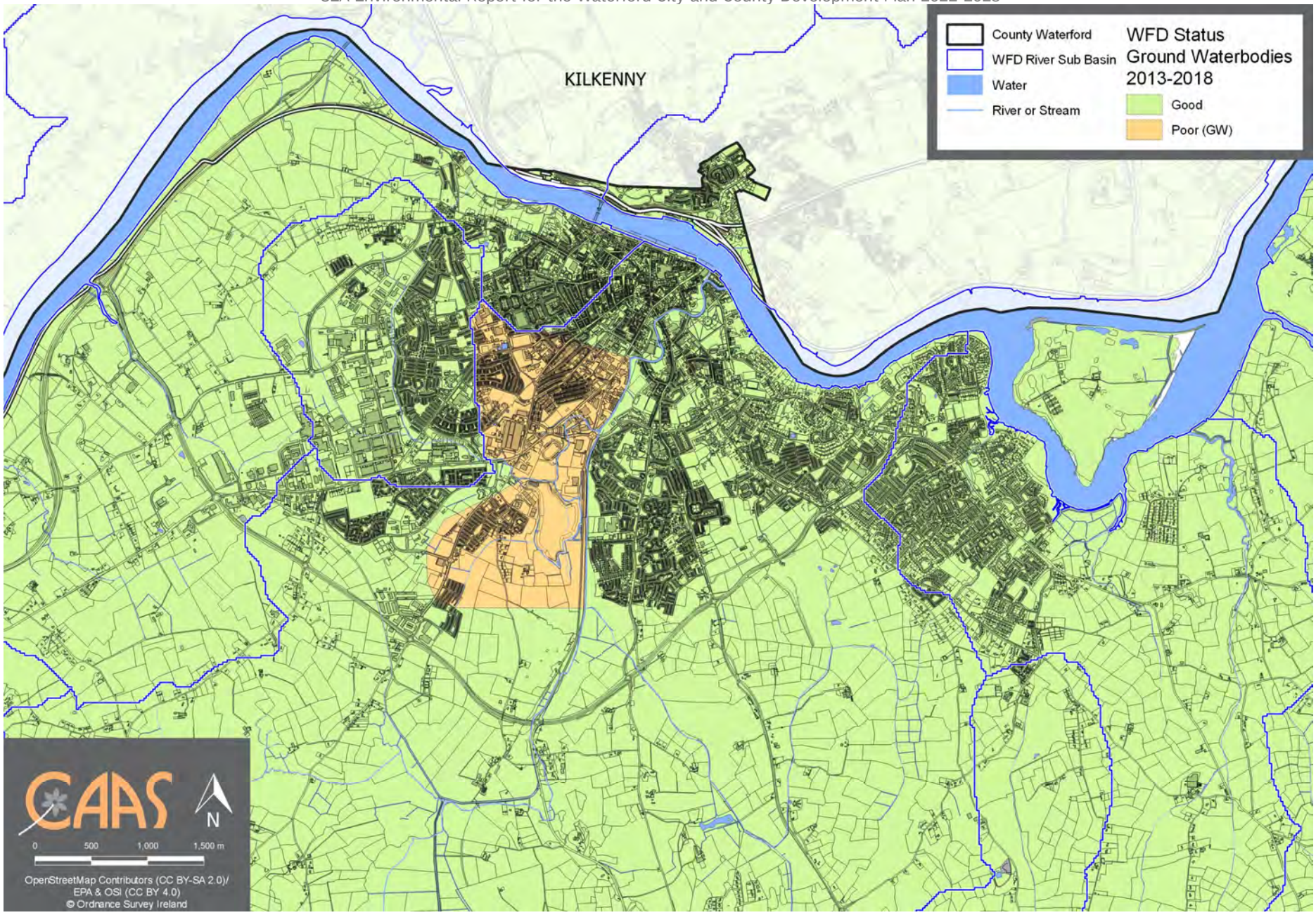
Appendix III Map 3: Areas with the potential for Annex I habitats and Margaritifera Sensitive Areas within and adjacent to Waterford City



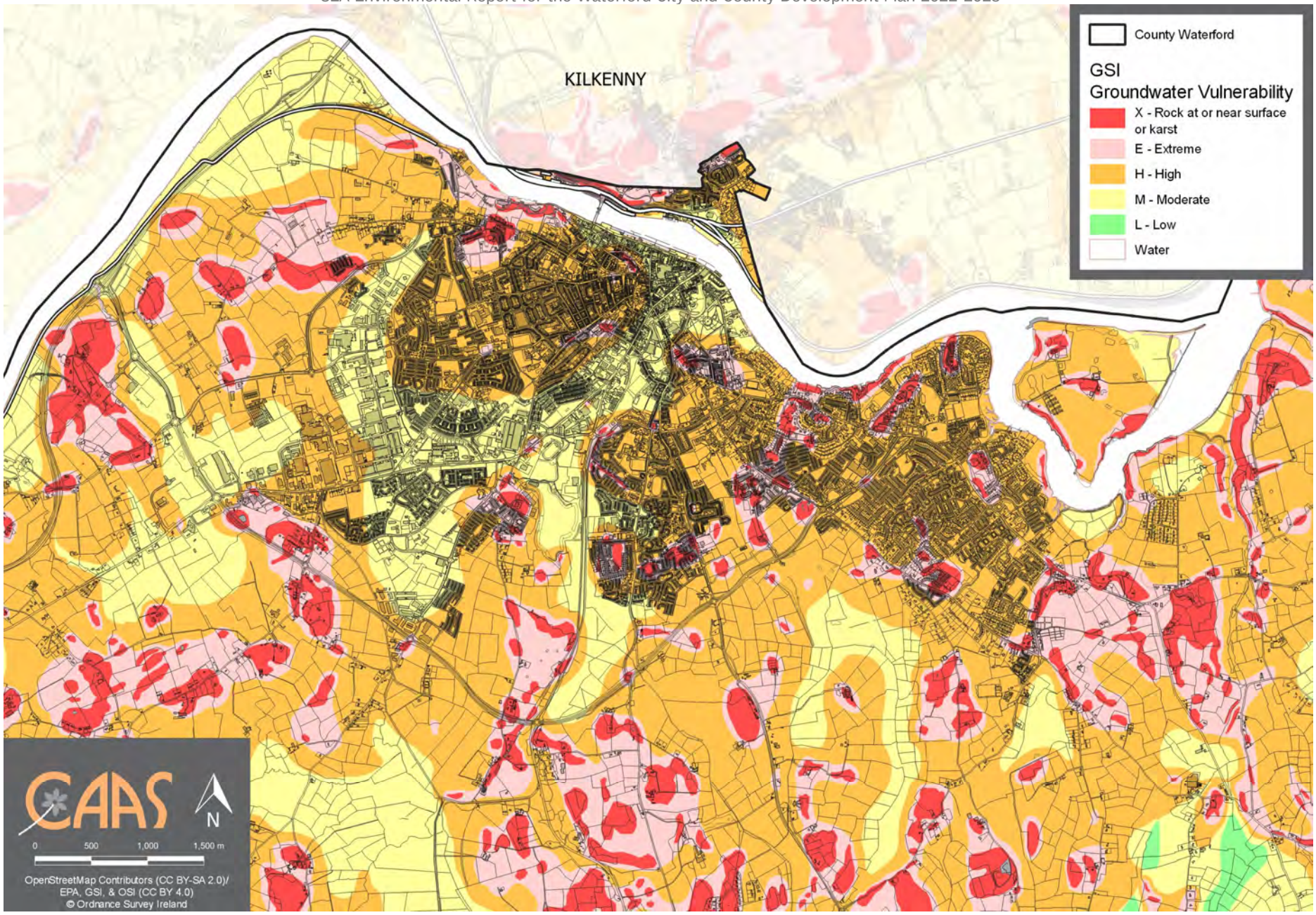
Appendix III Map 4: Soil Type within and adjacent to Waterford City



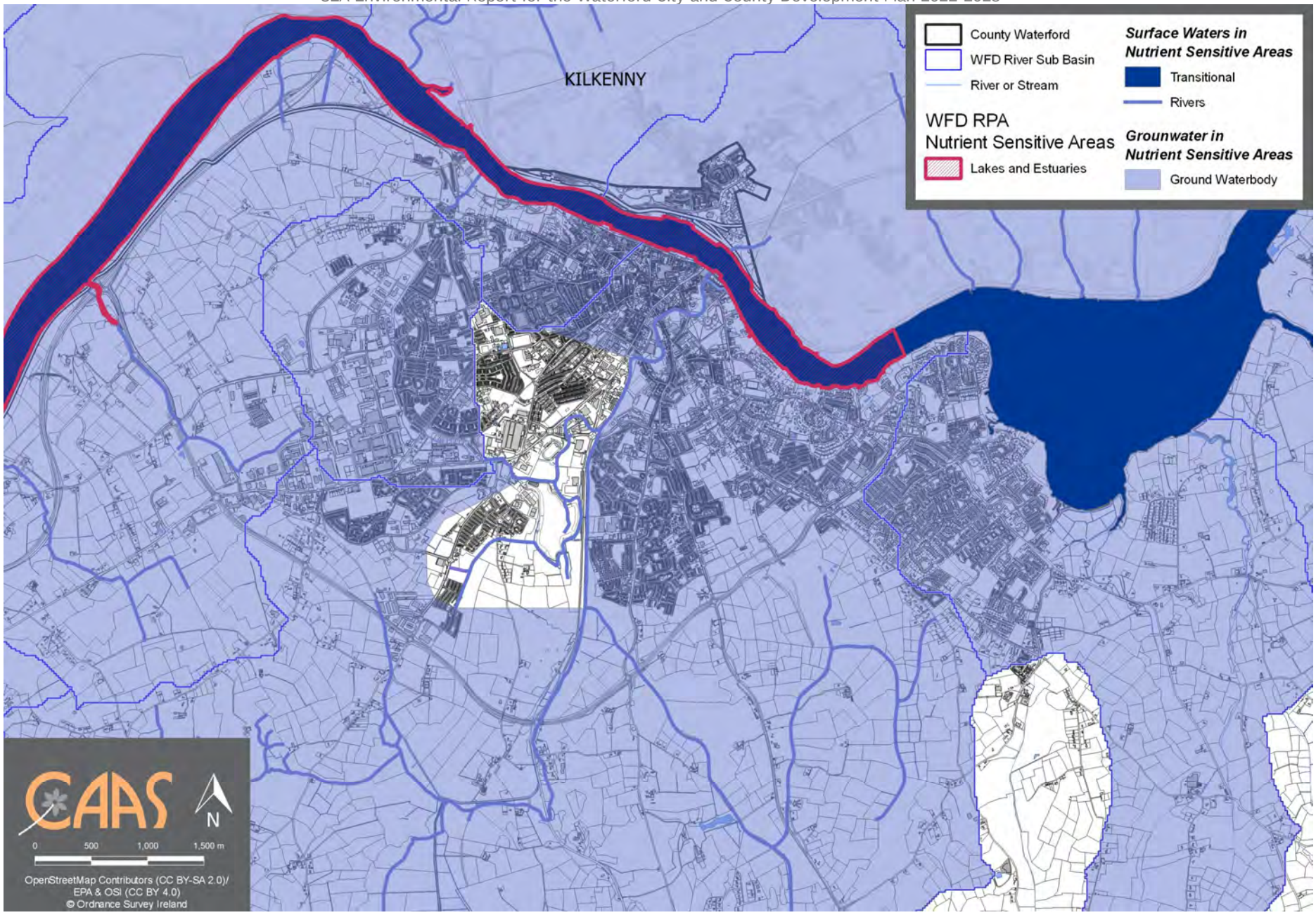
Appendix III Map 5: WFD Surface Water Status (2013-2018) within and adjacent to Waterford City



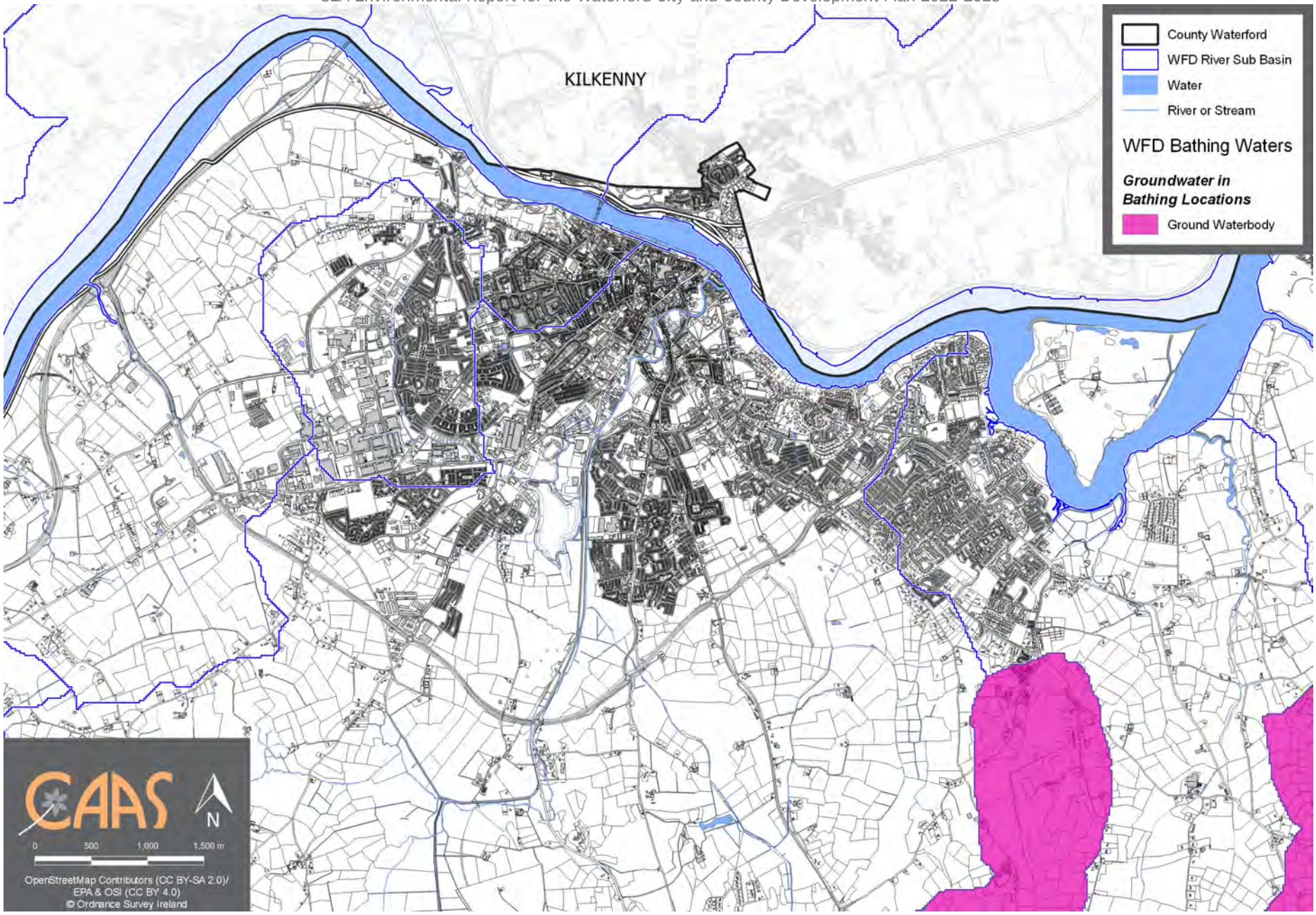
Appendix III Map 6: WFD Groundwater Status (2013-2018) within and adjacent to Waterford City



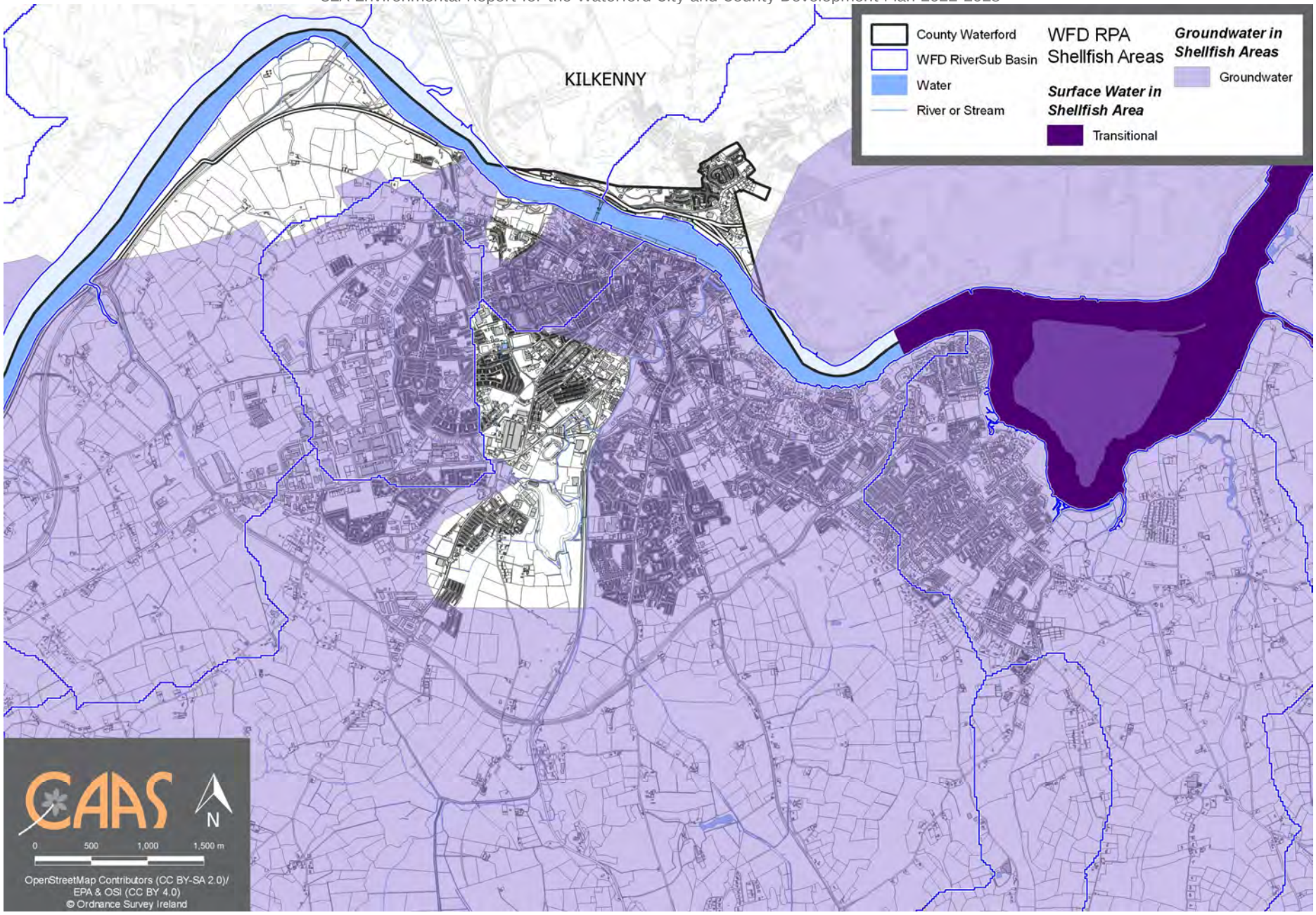
Appendix III Map 7: Groundwater Vulnerability within and adjacent to Waterford City



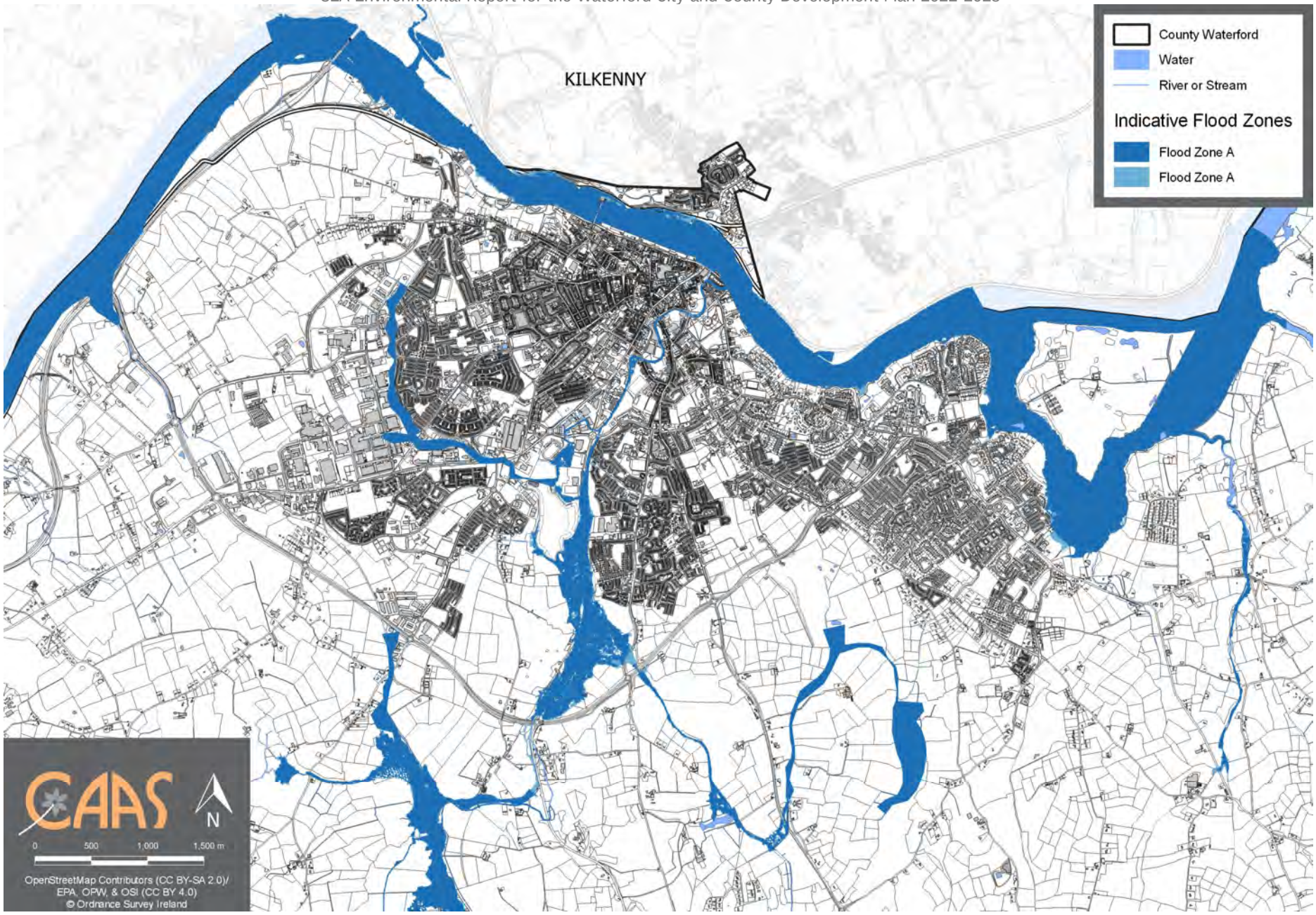
Appendix III Map 8: WFD RPA Nutrient Sensitive Areas within and adjacent to Waterford City



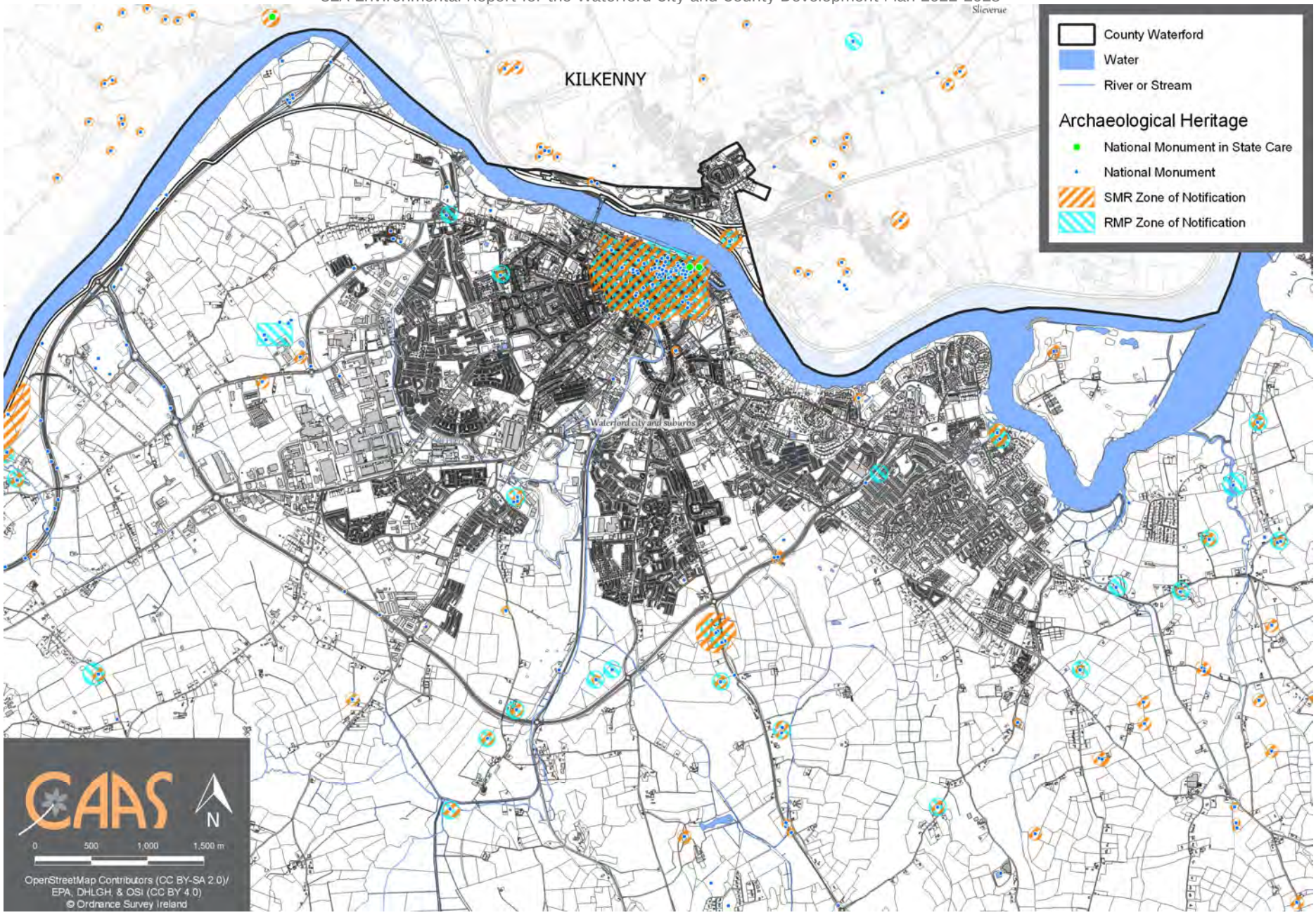
Appendix III Map 9: WFD RPA Bathing Waters within and adjacent to Waterford City



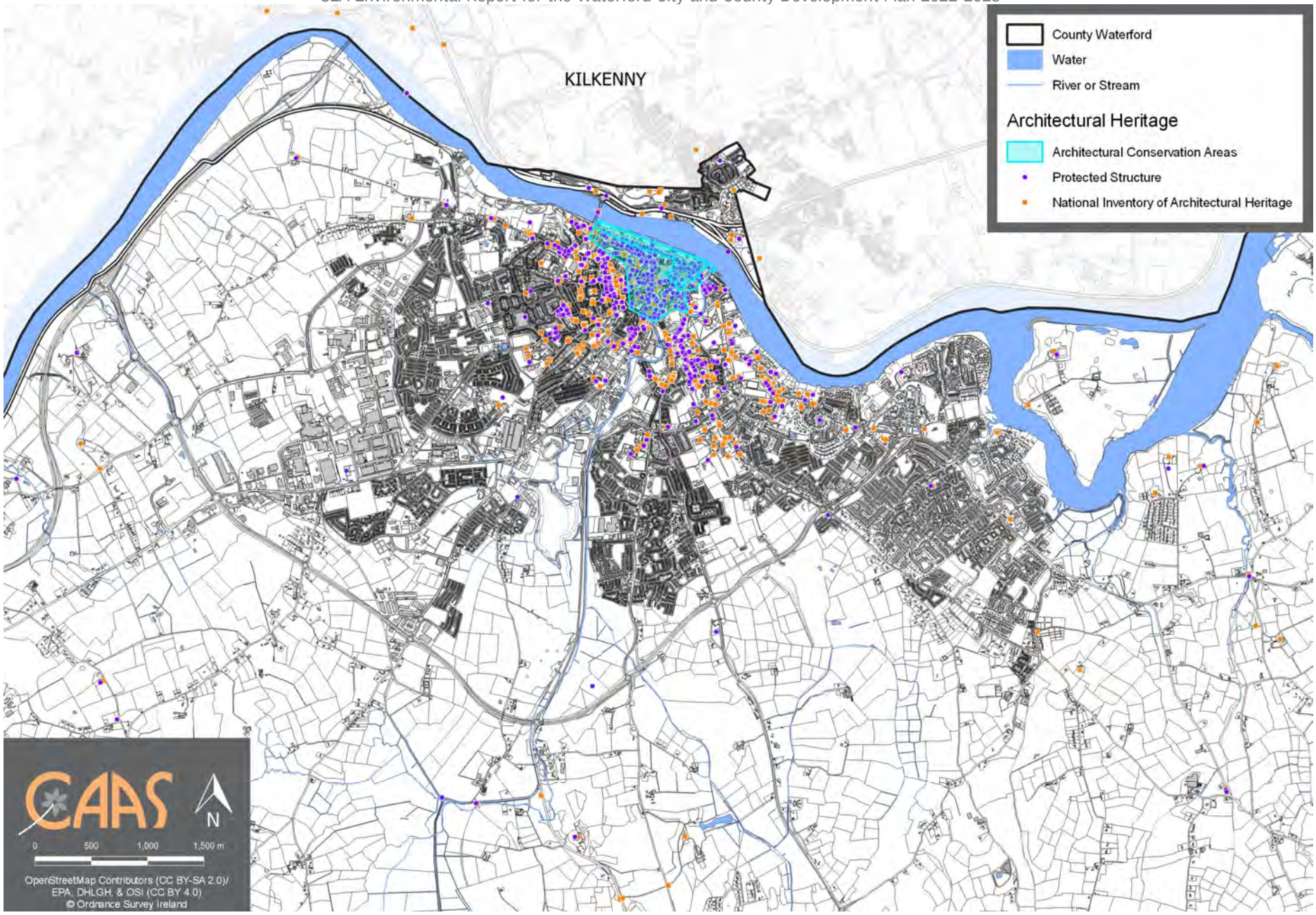
Appendix III Map 10: WFD RPA Shellfish Areas within and adjacent to Waterford City



Appendix III Map 11: Indicative Flood Zones from the SFRA within and adjacent to Waterford City



Appendix III Map 12: Archaeological Heritage within and adjacent to Waterford City



Appendix III Map 13: Architectural Heritage within and adjacent to Waterford