August 2026

Small Wastewater Treatment Plants National Plan: Supporting Communities while Protecting our Natural Environment

Strategic Environmental Assessment: Scoping Report

Safeguarding our water for our future

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Table of Contents

Appendices

Tables

Figures

Acronyms and Abbreviations

Term	Definition	Term	Definition
AA	Appropriate Assessment	NIAH	National Inventory of Architectural Heritage
AMOC	Atlantic Meridional Overturning Circulation	NPF	National Planning Framework
AQGs	Air Quality guidelines	NPWS	National Parks and Wildlife Service
ASSAP	Agricultural Sustainability Support and Advisory Programme	NUTS	Nomenclature of territorial units for statistics
BGS	British Geological Survey	OPW	Office of Public Works
CAP25	Climate Action Plan 2025	PAHs	Polycyclic Aromatic Hydrocarbons
CFRAM	Catchment-based Flood Risk Assessment and Management	PBDEs	Poly Brominated Diphenyl Ethers
CSO	Central Statistics Office	PE	Population Equivalent
DAERA	Department of Agriculture, Environment and Rural Affairs	PFAS	Poly-fluoroalkyl
DAFM	Department of Agriculture, Food and the Marine	pNHA(s)	Proposed National Heritage Area(s)
DECC	Department of the Environment, Climate and Communications	RBD	River Basin District
DHLGH	Department of Housing, Local Government and Heritage	RBMP	River Basin Management Plan
EPA	Environmental Protection Agency	RMP	Record of Monuments and Places
EC	European Communities	ROI	Republic of Ireland
EEC	European Economic Community	RPS	Record of Protected Structures
EIA	Environmental Impact Assessment	SAC	Special Area of Conservation
EU	European Union	SEA	Strategic Environmental Assessment
GES	Good Environmental Status	SFP	Strategic Funding Plan
GHG	Greenhouse Gas	SDG	Sustainable Development Goal
GSI	Geological Survey Ireland	SMR	Sites and Monuments Record
IAS	Invasive Alien Species	SOER	State of the Environment Report
IFI	Inland Fisheries Ireland	SPA	Special Protection Area
IGH	Irish Geological Heritage	UN	United Nations
LAWPRO	The Local Authority Waters Programme	UNESCO	United Nations Educational, Scientific and Cultural Organisation
LCA	Landscape Character Area	UWWTD	Urban Wastewater Treatment Directive
NAF	National Adaptation Framework	WEEE	Waste electrical and electronic equipment
NBAP	National Biodiversity Action Plan	WFD	Water Framework Directive
NDP	National Development Plan	WHO	World Health Organisation
NHA	National Heritage Area	WSSP	Water Services Strategic Plan
NI	Northern Ireland	WWTP	Wastewater Treatment Plant

Glossary

Glossary Term	Definition
AA Screening Report	The report which provides information on and assesses the potential for the proposed plan to impact on European sites within the Natura 2000 network.
Abstraction	"Abstraction" means the doing of anything whereby water is removed or diverted by mechanical means, pipe, or any engineering structure or works from any part of the water environment, including anything whereby the water is so removed or diverted for the purpose of being transferred to another part of the water environment; [European Union (Water Policy) (Abstractions Registration) Regulations 2018 S.I. No. 261 of 2018].
Agglomeration	An area where the population expressed in population equivalent, combined or not with economic activities, is sufficiently concentrated for urban wastewater to be collected and conducted to one or more urban wastewater treatment plants or to one or more final discharge points
Alien species	Animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found.
Amenity	The social value or benefits that people derive from interacting with or being near a place. Amenity can include aesthetic and visual enjoyment, recreational opportunities, tranquillity and escape from urban stress, and cultural and spiritual significance. Amenity is influenced by the quality, quantity, and location of water assets.
Appropriate Assessment	An assessment required under the Habitats Directive to determine if the project or plan will adversely affect the integrity of a European site(s) either individually or in-combination with other plans and projects in view of the site's conservation objectives.
Asset	Item, thing or entity that has potential or actual value to an organization
Baseline Environment	The state of the environment in the absence of the Plan.
Biodiversity Net Gain	Biodiversity refers to the variety of living organisms including animals, insects, and plants. Net gain is the process of enhancing the overall biodiversity value.
Bioresource	Material that can be recovered from the treatment process such as sludge, which is rich in organic matter and nutrients. The components of sludge can be repurposed and used in beneficial ways such as a soil conditioner and fertiliser is any organic material that can be used as a source of energy or nutrients in a wastewater treatment process. Bioresources include wastewater sludge, food waste, agricultural residues, and microalgae.
Catchment	The area of land where surface water from rainfall converges at a lower elevation, in a river, lake or an estuary. The catchment includes all drainage channels, tributaries (smaller streams) and floodplains.
Catchment management	A process that recognises a catchment as the appropriate unit for understanding and managing land, water and ecosystems.
Circular economy	In a circular economy, the value of products and materials is maintained for as long as possible. Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value.
Climate change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods
Community	The people who live, work or visit Ireland.
Cumulative effect	The combined effects from several plans, programmes or policies.
Customer	"Customer" means, in relation to the provision of water services, the occupier of the premises in respect of which the water services are provided. [Water Services (No.2) Act 2013].

Glossary Term	Definition
Emerging contaminants	Substances that are not regulated or monitored in drinking water but may pose a risk to human health or the environment. They include pharmaceuticals, pesticides, industrial chemicals and microplastics.
Emission Limit Value	The maximum allowable concentration or quantity of a pollutant that can be released into the environment from a specific source over a given period.
European site	European sites refer to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the EU Habitats and Birds Directives.
Habitat	The natural home or environment of a plant or animal.
Invasive species	Non-native species that out-compete native species to the detriment of an ecosystem.
Likely Significant Effect	Term adapted from Article 6(3) of the Habitats Directive ("likely to have a significant effect"), describing the type of effects which, if identified as potentially arising as a result of a project or plan, trigger an AA.
Mitigation	The implementation of measures designed to reduce the predicted effects of a plan or project on the environment.
Natura Impact Statement	A document which summarises the findings of the AA and how they were factored into the plan, the reason for choosing the preferred plan in light of alternatives considered and to state the likely significant effects.
Nature-Based Solutions	Working with nature rather than trying to control it with the potential for achieving multiple benefits for water quality, quantity, biodiversity and climate adaptation and resilience.
Population Equivalent	Wastewater treatment plants are described in terms of their designed treatment capacity, which is generally expressed as population equivalents (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 population equivalents (PE). One person is considered to generate 60g of BOD per day (BOD is the 5 day biochemical oxygen demand); and 1 PE is defined as being equivalent to 60g of BOD per day.
Protected site	An area that has been designated as having a special ecological of conservation value under EU legislation such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Natural Heritage Areas (NHA).
RAMSAR site	An international designation for an important wetland site under the Ramsar Convention.
Reliable water supply	The ability to provide sufficient and safe water to meet the needs of a population or a system without interruption or failure.
Residuals	The by-products of the water treatment process that remove suspended solids from raw water or sewage. They can be liquid or solid depending on the source of water and type of treatment.
SEA Environmental Report	The SEA report that documents the effects of investment priorities outlined in a plan.
SEA Scoping Report	The SEA report sets out the scope and objectives of the SEA.
SEA Screening statement	A summary of the SEA screening determining whether the proposed plan requires SEA.
Special Area of Conservation	An international designation for habitats and/or species under the EC Habitats Directive.
Special Protection Area	A site of international importance for birds, designated as required by the EC Birds Directive.
Stakeholder	Person or organisation that can affect, be affected by, or perceive themselves to be affected by a decision or activity
Storm Water Overflow	"Storm water overflow" means a structure or device on a sewerage system designed and constructed for the purpose of relieving the system of excess flows that arise as a

Glossary Term	Definition
	result of rain water or melting snow in the sewered catchment, the excess flow being discharged to receiving waters.
Strategic Environmental Objectives	Methodological measures against which the effects of the Plan can be tested.
Urban	Densely populated areas that are built up with dwellings, buildings and infrastructure.
Wastewater sludge	Organic by-product of the biological treatment of wastewater comprising a mixture of organic solids and water. Also known as sewage sludge.
Water conservation	The practice of using water efficiently and reducing unnecessary water wastage. It can be achieved by improving water infrastructure (leakage reduction), adopting water-saving technologies, implementing water policies and regulations, and promoting water awareness and education.
Water sector	Any organisation that has a role in water management. For example, water companies, catchment management authorities, local authorities and regulators.
Zone of Influence	This is the area where an activity or pressure can directly or indirectly impact the environment or other systems. It defines the spatial area over which there is potential for LSEs, taking account of the sensitivity and mobility of different QI/Special Conservation Interest, on species or habitats from a project or plan.

1 Introduction and Background

1.1 Background to Uisce Éireann

On the 1st of January 2014, through the Water Services Act (No. 1) 2013, Uisce Éireann (at that time known as Irish Water) assumed statutory responsibility for the provision of public water services and management of water and wastewater investment. Uisce Éireann's responsibility is to ensure that all of its customers (households and businesses) receive a safe and reliable water supply and have their wastewater collected, appropriately treated and returned safely to the environment. Figure 1-1 below shows some key facts about Uisce Éireann's services and infrastructure.

Figure 1-1 Uisce Éireann statistics

Uisce Éireann's vision is for **'A sustainable Ireland where water is respected and protected, for the planet and all the lives it supports.'**

1.2 Purpose of the Small Wastewater Treatment Plants National Plan

Uisce Éireann is developing a national plan "Small Wastewater Treatment Plants National Plan: Supporting communities while protecting our natural environment" (hereafter referred to as the Small WWTP National Plan or the Plan). The Plan will guide how wastewater treatment plants (WWTPs) serving small communities (i.e. below 1,000 population equivalent (PE)) are planned, assessed and managed into the future.

Uisce Éireann is responsible for over 1,000 WWTPs across Ireland, with approximately 800 of these being small WWTPs serving communities of less than 1,000 PE or approximately 350 houses. Small WWTPs represent the majority of wastewater treatment plants operated by Uisce Éireann by number, and while they account for only 4% of the total treated load, they can still cause local water quality impacts.

Pressures to our waterbodies typically arise from a range of sectors and activities, including agriculture (e.g. nutrient runoff, sediment loss), wastewater discharges (both urban and domestic systems), forestry operations, hydromorphological alterations (such as drainage, channel modification, or barriers to fish passage), urban runoff, and industrial emissions. Identification of significant pressures is a critical step in the River Basin Management Plan (RBMP) process, as it enables targeted action to address the root causes of water quality issues. During the third River Basin Management Plan (2022–2027), discharges from small WWTPs were identified as a significant pressure on 63 water bodies and the sole pressure on five water bodies.

Wastewater treatment infrastructure in small communities has historically experienced underinvestment, and much of the existing infrastructure was originally designed for smaller, more dispersed populations. At the same time, rural regeneration and national planning policy are creating new opportunities for housing and community growth across Ireland. This will generate additional wastewater that must be effectively collected, treated and safely returned to the environment. Upgrading WWTPs in small communities is often complex and disproportionately expensive relative to the populations served. Historically, solutions have been developed on a site-by-site basis, even where many plants face similar challenges. This approach can lead to inefficiencies, longer delivery timelines and increased costs.

The purpose of the Plan is to establish a clearer, more consistent and evidence-based approach to identifying where upgrades are required, how these should be assessed, and how investment can be prioritised to deliver the greatest benefit. By addressing common challenges earlier and at a national level, the Plan will support a more streamlined and efficient approach to delivery. This will help reduce delays, improve transparency and provide greater certainty for communities, local authorities and regulators. It will also support sustainable growth in small towns and villages—enabling better planning for housing, schools, healthcare facilities and local businesses—while improving environmental outcomes by protecting water quality and safeguarding sensitive habitats and protected areas.

The Small WWTP National Plan is subject to the Strategic Environmental Assessment Directive (SEA Directive) Council Directive 2001/42/EC, the Birds Directive (Council Directive 2009/147/EC) and the Habitats Directive (Council Directive 92/43/EEC). This document is part of meeting requirements under the SEA Directive and explains how they link to the requirements of the Birds and Habitats Directives in the sections below.

1.3 Strategic Environmental Assessment (SEA)

The SEA Directive (2001/42/EC) set out a process for the environmental assessment of plans and programmes and aims to provide for a high level of protection of the environment and to promote sustainable development. It also sets out specific requirements with respect to the Habitats Directive (92/43/EEC) and Birds Directive (2009/42/EC).

The SEA Directive is implemented in Ireland via the European Communities (EC) (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, as amended by the EC (Environmental Assessment of Certain Plans and Programmes) (Amendments) Regulations 2011 (known as the 'SEA Regulations'). Under these regulations, qualifying plans such as the Small WWTP National Plan are required to be subject to SEA screening as a first step to determine if SEA is required. A screening review has been undertaken following the Environmental Protection Agency's (EPA) 2021 screening guidance and this confirmed that the Plan requires a mandatory SEA (the Screening Statement is provided in Appendix A). The subsequent stages include scoping, assessment, public consultation and monitoring. The current stage is scoping.

The aim is that the SEA process should influence and improve the plan. The process involves assessing the likely significant effects on the environment of implementing the plan and considering reasonable

alternatives for achieving plan objectives. Combined and cumulative effects of the plan as a whole and with other plans and programmes are also included as part of the assessment. The SEA Regulations set out specific requirements for consultation with Environmental Authorities and transboundary environmental authorities (listed in section 1.8) at the scoping stage and for public consultation on the draft plan and SEA Environmental Report (see Table 1-1 below on the phases for developing the Plan alongside the assessments). The SEA Environmental Report and consultation responses are also required to be taken into account in finalisation of the plan and for implementation monitoring.

Table 1-1 Work phases and consultations during development of the Plan

Phase	Plans/Reports	Consultation
1	Issues Paper, SEA Scoping Report, Appropriate Assessment Screening Report	Key stakeholder consultation including environmental authorities and transboundary environmental authorities with documents available online for public review and comment
2	Draft Small WWTP National Plan, SEA Environmental Report, Natura Impact Statement	Public consultation including the key stakeholder and environmental authorities mentioned above
3	Final Small WWTP National Plan, SEA Statement, Addendum to Natura Impact Statement (if required) and Appropriate Assessment Determination	Plans/ Reports updated to address consultation feedback

The SEA is undertaken as a four-stage process (detailed in Table 1-2).

Table 1-2 Stages of the SEA

Stage	Purpose and Requirements	Output
Stage 1: Screening	Prior to starting the SEA process, a plan or programme undergoes 'screening' to determine whether it requires SEA (also if SEA is to be undertaken on a voluntary basis).	SEA Screening Statement – Uisce Éireann (as the responsible authority) determined that SEA would be undertaken for the Plan (see 1.1.1.1..Appendix A)
Stage 2: Scoping **Current SEA Sage**	Consideration of the context and objectives of the SEA, provides information on baseline data, identifies relevant environmental issues and trends, and defines the parameters of the scope of the SEA for the purpose of consultation.	SEA Scoping Report – this report.
Stage 3: Identification, Prediction, Evaluation and Mitigation of Potential Effects	Within the context and parameters identified at the Scoping Stage, identification and evaluation of likely significant effects of the Plan is carried out, including consideration of alternatives and determination of measures to mitigate and monitor residual effects.	SEA Environmental Report.
Stage 4: Consultation, Revision and Post-Adoption	Consultation with statutory consultees and the public. This may require changes to the Plan in light of responses. Statement on how the SEA and consultation process has influenced the final Small WWTP National Plan. The statement is required to include an environmental monitoring plan – this is intended to provide feedback on significant environmental effects. This will also aid any future review / revision of the Plan and the SEA.	SEA Statement. Implementation of the monitoring programme.

1.4 SEA Screening

Stage 1 of the SEA process is SEA screening. The Small WWTP National Plan has been screened following the EPAs Good Practice Guidance on SEA Screening published December 2021. Uisce Éireann as the competent authority, has determined that SEA is required on the basis of the EPA 2021 screening guidance applicability tests.

This is based on Section 9 (1) (a) and (b) of the SEA Regulations, which states that: Environmental assessment shall be carried out for all plans and programmes:

'(a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, and which set the framework for the future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive

'(b) which are not directly connected with or necessary to the management of a European site but, either individually or in combination with other plans, are likely to have a significant effect on any such site"

It is the view of Uisce Éireann that the Small WWTP National Plan is a qualifying plan under both section 9 (1) (a) and section 9 (1) (b) because as identified in the Screening Statement in Appendix A, Table A.1, implementation of the plan could result in identification of projects that may:

a) fall under Annex II of the EIA Directive; and
b) have potential for likely significant effects on one or more European sites.

Therefore, the Plan is to be subject to SEA in accordance with the regulations. The SEA Screening Statement is provided in Appendix A of this report.

1.5 SEA Scoping

This SEA Scoping Report is the output of Stage 2 of the four-stage SEA process. The SEA scoping process aims to:

- Outline what the plan is expected to cover and how the draft plan will be developed;
- Outline the existing environmental baseline – describe the environmental characteristics of the study area and to present the initial understanding of the key environmental issues relating to the Plan;
- Undertake a review of legislation, policies and plans – outline the potential external influences on the Plan and the environment in which it is proposed through a review of legislation, policies and plans;
- Propose a framework of Strategic Environmental Objectives and set out a draft SEA methodology, including outlining how alternative approaches for the Plan will be considered, identify potential interrelated plans and programmes, and outline how cumulative effects will be addressed; and
- Provide the Scoping Report for consultation and seek feedback from stakeholders (statutory and transboundary) on the proposed approach to the SEA of the Plan.

The SEA scoping process will inform the SEA assessment and development of the Plan (Stage 3 of the SEA process). The SEA Environmental Report will be the main documented output of Stage 3 of the SEA process. The SEA Environmental Report will present information on the SEA and the likely environmental issues related to the implementation of the Plan as a whole, as well as within each of the counties that are subject to the plan.

Scoping is informed by the preliminary baseline information that has been identified and described within this report. Stakeholders are invited to comment on any further information which may be relevant for the

next stage of the SEA. Any relevant data gaps identified will be reported in Stage 3 of the SEA (the SEA Environmental Report) along with areas of uncertainty for the assessment.

1.6 Appropriate Assessment (AA)

In addition to compliance with the SEA Directive, the preparation and implementation of the Small WWTP National Plan must comply with the requirements of the Birds Directive and European Union (EU) Habitats Directive.

The Habitats Directive requires that if a plan, policy or programme is likely to have an effect on one or more European sites, either alone or in combination with other schemes, plans or projects, then it must be subject to AA. In Ireland the relevant sites are Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), also referred to as "Natura 2000" Network. In Northern Ireland sites designated under the Ramsar Convention are also considered under the Habitats Directive.

Uisce Éireann is the relevant 'public authority' as identified in the transposing (EC Birds and Natural Habitats) Regulations 2011. An initial AA screening has been undertaken for the Plan to determine if it is likely to have effects on a Natura 2000 or Ramsar site, either individually or in combination with other plans or projects.

The AA screening concludes that as the Plan is a national scale plan covering all regions in the country with potential transboundary implications and falls under the remit of the Habitats Regulations, 2011. It is therefore subject to the requirements of the Regulations to assess the implications of the plan on European sites in view of the sites' conservation objectives.

Given the strategic nature of the Plan, and the current stage of preparation, it is concluded that there is potential for likely significant effects on one or more European sites, in view of the sites' conservation objectives. At this stage of the AA process all European sites across Ireland and Northern Ireland are screened in. The AA screening report is provided here: www.water.ie/smallcommunitiesww

In the absence of more detailed information on the Plan, the precautionary principle must be applied. Therefore, in accordance with Article 6(3) of the Habitats Directive, Stage 2 AA of the Plan is required. This will be presented in a Natura Impact Statement (NIS) to fully inform the AA to be undertaken by Uisce Éireann and will be published alongside the draft Plan and the SEA Environmental Report.

There is a degree of overlap between the requirements of the SEA and AA and in accordance with best practice, an integrated approach is being applied between the development of the Plan, the SEA and the AA, such as sharing of baseline data, cohesive assessment of the potential ecological effects of the Plan on European sites and clarification on more technical aspects of the Plan. These processes together will shape the development of the Plan. The SEA will take account of the findings of the AA in relation to potential effects and mitigation relevant for Natura 2000 sites and will also cover aspects of biodiversity, habitats and species that are not required to be covered in the AA.

1.7 Consultation

The Small WWTP National Plan will be developed following two phases of consultation.

An initial statutory consultation on the Issues Paper, SEA Scoping Report and the AA Screening Report. For this period of consultation, Uisce Éireann will engage directly with key statutory and regulatory stakeholders.

In line with Article 9 (5) of the SEA Regulations (S.I. No. 435 of 2004), this SEA Scoping Report will be issued to the following statutory Environmental Authorities for their review and comment:

1. The Environmental Protection Agency (EPA);
2. The Department of Agriculture, Food and the Marine (DAFM);

3. The Department of Housing, Local Government and Heritage (DHLGH) including the Development Applications Unit; and
4. The Department of the Environment, Climate and Communications (DECC).

As there are shared catchments with Northern Ireland and the possibility of transboundary impacts, the SEA Scoping Report will also be issued to Northern Ireland's Department of Agriculture, Environment and Rural Affairs (DAERA) for consultation on transboundary environmental effects.

In addition, a copy of this SEA Scoping Report will be published online at www.water.ie/smallcommunitiesww

Feedback received on the Issues Paper and the SEA Scoping Report and the AA Screening Report, will be reviewed and taken into account as the draft Plan, SEA Environmental Report and NIS are prepared. The issues raised and the response to them will be summarised in the SEA Environmental Report.

As part of the second phase of consultation, Uisce Éireann will carry out a public consultation on the Plan together with the SEA Environmental Report and NIS (AA process) in early 2027.

The following key questions have been prepared to guide consultees and stakeholders in making a submission on this SEA Scoping Report and are repeated under the relevant sections throughout the report. However, your response and comments are not limited to responding to these questions.

SEA Scoping Questions

1. **Do you have any suggestions that you would like Uisce Éireann to consider in the preparation of the Plan?**
2. **Do you have any comments on the approach to the Strategic Environmental Assessment (SEA) of the Plan?**
3. **Section 3 sets out the current baseline environment conditions and future trends. The key considerations for the environmental assessment of the Plan and the proposed scope of the assessment is summarised in Section 3.20. Do you have any comments on these?**
4. **Are there any further plans, policies and programmes not identified in Section 4 or in Appendix B that should be considered?**
5. **Do you have any comments on the SEA approach to considering plan alternatives at this stage? If so, please discuss these and provide specific recommendations for changes if possible.**
6. **Are there any additional or specific plans or programmes that you feel should be considered within the cumulative impact assessment?**
7. **How would you like Uisce Éireann to communicate with you as the development of the Plan progresses?**

The environmental authorities/consultees and the public will be consulted again at Stage 3 – SEA Environmental Report with the draft plan, as required under the SEA Regulations.

1.8 Structure of the SEA Scoping Report

This SEA Scoping Report is organised as follows:

- Section 2 Development of the Plan – This section outlines the proposed scope of the Plan and how the SEA process and AA are integrated with its development;
- Section 3 Preliminary Baseline and Key Issues – The existing baseline environment is described along with key pressures and trends to identify key considerations relevant for assessing the beneficial and adverse impacts of the Plan and to consider the likely evolution of the existing baseline environment without the Plan in place. The key issues identified for

the development of the Plan as presented in the Issues Paper are also considered further in this baseline review. The scope of the topics and key aspects to be covered in the SEA are set out. The baseline environment information will be used for the SEA and will be included as part of the SEA Environmental Report in the next stage of the SEA process;

- Section 4 Review of Policies, Plans and Programmes – An outline of the key relevant policies and plans to be considered and reference to a comprehensive review informing the development of SEA objectives and the approach to SEA. This section will cover the national and regional policies, plans and programmes that need to be considered in the development and assessment of the Plan. Key relevant Uisce Éireann's plans and programmes in place or in progress are also summarised;
- Section 5 SEA Methodology – This section provides the draft methodology to the SEA, including the SEA objectives, that are proposed to be used in the SEA of the Plan. The approach to assessing alternative approaches and cumulative effects is also set out; and
- Section 6 Next Steps – This section identifies what happens next in the SEA process following the consultation on the SEA Scoping Report.

2 Development of the Small WWTP National Plan

An Issues Paper has been drafted to support the development of the Plan. It summarises the key issues hindering upgrades to small WWTPS and the approach taken to address the need for a more streamlined approach to the delivery of upgrade solutions and a more efficient authorisation process.

2.1 Small WWTP National Plan Vision and Objectives

The aim of the Plan is to provide a clearer and more consistent way of identifying where upgrades to small WWTPs are needed, how they should be assessed, and how investment can be targeted where it will have the greatest benefit. Figure 2-1 presents locations of small wastewater treatment plants in Ireland. By addressing common challenges early and at a national level, the Plan can help reduce delays, improve transparency and provide greater certainty for communities, local authorities and regulators. This can support benefits such as better planning for new homes, schools, health facilities and local businesses, whilst also improving environmental outcomes by helping to protect water quality and safeguard sensitive habitats and protected areas.

The opportunities identified for the development of the Plan are to:

- Identify environmental and delivery constraints early, reducing risk at project stage; and
- Enable the use of standard designs and specifications and repeatable delivery models which reduces reliance on project-specific solutions.
- With a view to a possible simplification provision in the WWDA Regulations for all WWTPs less than 1,000 PE, Uisce Éireann will engage with the Department of Housing, Heritage and Local Government (DHLGH) regarding further regulatory reform. Uisce Éireann will further examine in particular whether the environmental assessment process could move from a predominantly site-by-site approach to a risk-based, tiered assessment model that focuses regulatory effort on locations where a greater risk of environmental impact exists.
- Expedite delivery of upgrades to small WWTPs where standard design is considered appropriate.
- Support more timely investment in small WWTPs across the country enabling better protection and improvement of the water environment; and
- Strengthen engagement and collaboration with regulators, local authorities, communities and elected representatives.

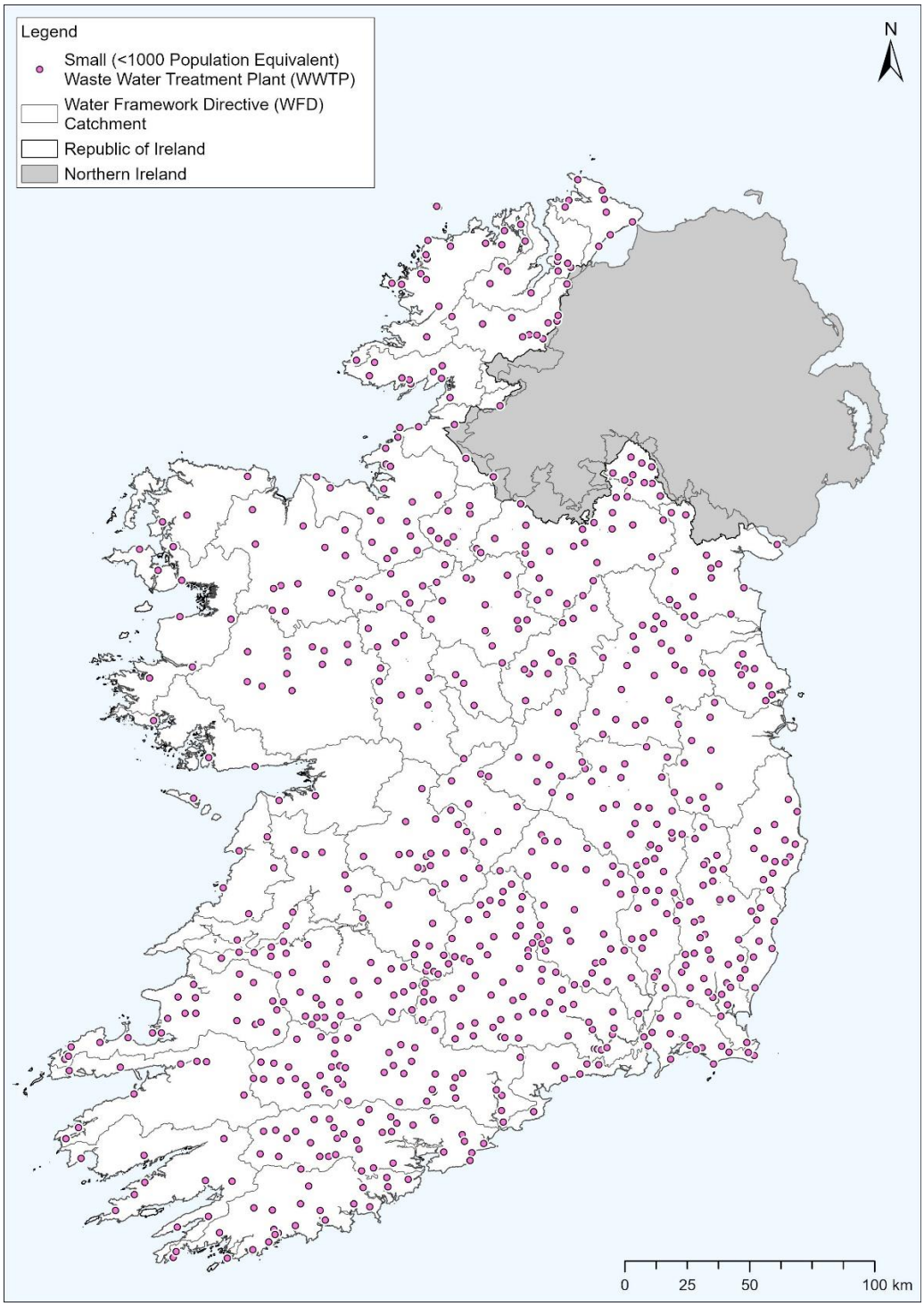

Figure 2-1 Study Area and Small Wastewater Treatment Plants Locations

2.2 Small WWTP National Plan and the Hierarchy of Plans

The Water Framework Directive (WFD) is the overarching Directive relating to water policy in the EU. Under this, there are a number of national level plans produced by Uisce Éireann to provide a framework for wastewater management services across Ireland (Figure 2-1) as outlined below:

- The **Water Services Policy Statement (WSPS)** provides the framework within which our funding and investment plans are agreed. It sets out the priorities of Government regarding the provision of water services during the period of a Strategic Funding Plan;
- The **Water Services Strategic Plan (WSSP) 2050** sets out our objectives for the period 2025-2050 and the means by which Uisce Éireann will achieve them;

- The **National Wastewater & Drainage Plan (NWWDP)** is currently being developed and will provide a long term whole system framework for wastewater services across Ireland; and
- The **Strategic Funding Plan (SFP)** presents the arrangements that Uisce Éireann propose to make and the measures that Uisce Éireann propose to deliver over a five-year period to implement the objectives of the Plan. The SFP is approved by the Minister for Housing, Local Government and Heritage. The current SFP covers the period from 2025 to 2029.

Whilst the SFP sets out the planned level of operational and capital expenditure over this period, the actual allowed operational and capital expenditure is decided on by the economic regulator, the Commission for Regulation of Utilities through the economic regulatory process.

Environmental regulation of public wastewater services is by the EPA who provide Uisce Éireann's wastewater discharge authorisations.

The Small WWTP National Plan is a national level plan which will sit under the National Wastewater and Drainage Plan and the National Bioresources Strategy which are both currently in preparation. It will be influenced by Uisce Éireann Tier 1 WSSP 2050 and other Tier 2 national level plans, and also relevant regional level plans including the Cork Wastewater Strategy and Galway Wastewater Strategy which are also both currently in preparation.

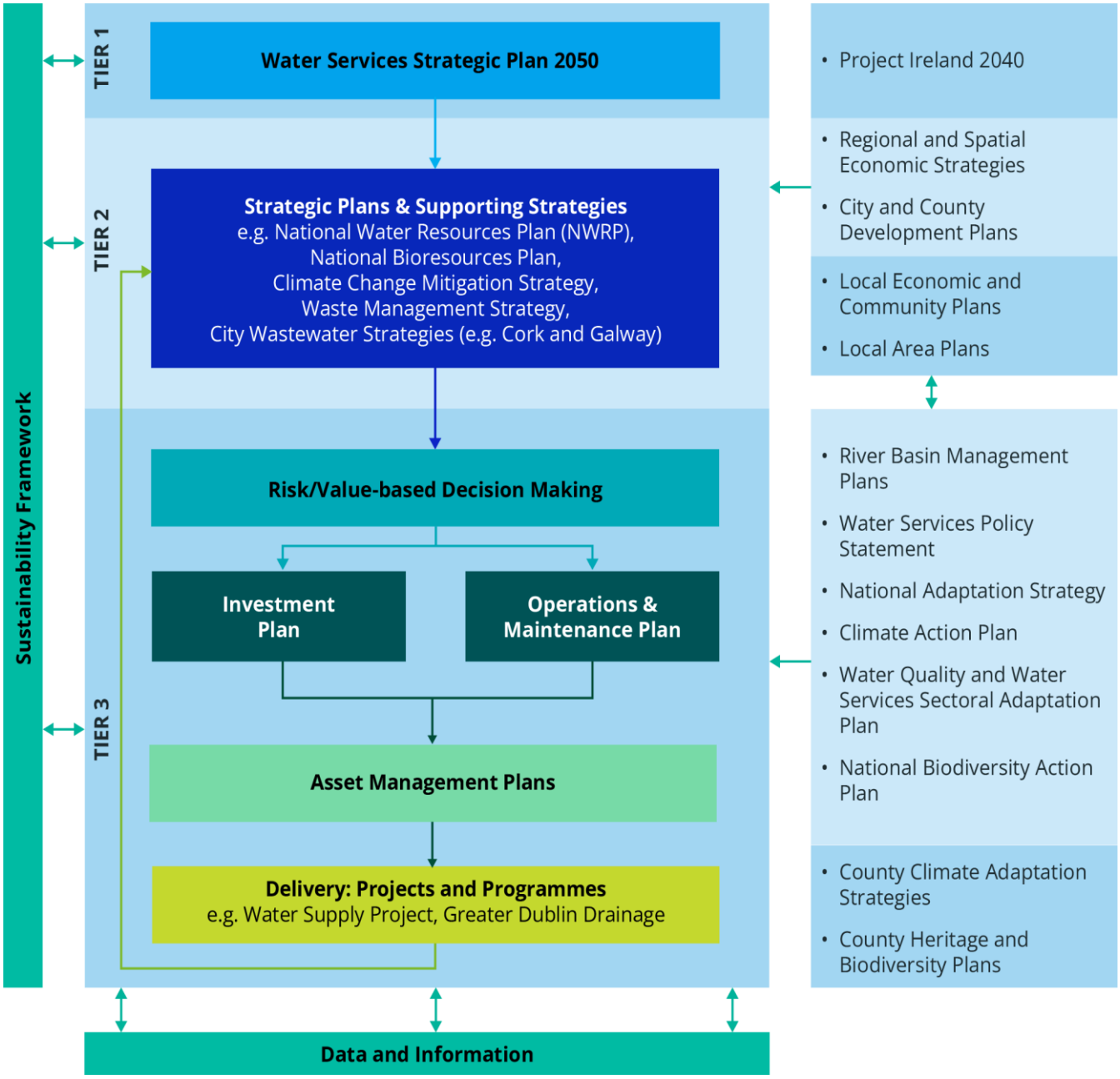

Figure 2-2 Hierarchy and interaction of plans and projects

2.3 Issues Paper for the Small WWTP National Plan

An Issues Paper has been drafted to support the development of the Plan. It summarises the key issues hindering upgrades to small WWTPs and the approach taken to address the need for a more streamlined approach to the delivery of upgrade solutions and a more efficient authorisation process. The key challenges are summarised as follows:

Challenge 1: Inefficiencies from Bespoke Design Approaches

Historically, upgrades to small WWTPs have been delivered on a site-by-site basis, with bespoke engineering solutions developed to address specific issues. While this approach can respond effectively to localised challenges, it has led to inefficiencies across the entire asset base as similar problems are repeatedly solved from scratch.

Challenge 2: Unsustainable Authorisation Timeframes

The current regulatory and authorisation processes for upgrading small WWTPs present a significant constraint. This slow pace is not sustainable and creates a major bottleneck in delivering essential infrastructure improvements. Considerable time and effort are required to progress full applications for numerous small sites and so this risks the delivery of other critical projects. These issues have been reflected recently in the government's work on "Accelerating Infrastructure Report and Action Plan[1]" where a specific Action 11 calls out 'Reform processes applied to critical infrastructure within agencies/ regulators.

Challenge 3: Historical Underinvestment

There are approximately 800 small WWTPs nationally that have historically been overlooked in strategic planning and investment prioritisation. This has resulted in a substantial cumulative backlog of WWTPs, struggling to treat the organic load produced, and are complex to manage and resource-intensive to resolve.

Challenge 4: Investment Prioritisation Imbalance

Despite their large number, small WWTPs have consistently been deprioritised in favour of larger WWTPs. Investment decisions have understandably focused on assets with the greatest overall impact. However, as a result, critical improvements at smaller sites are often delayed or deferred, potentially constraining local development, limiting housing growth, and increasing the risk of environmental non-compliance over time.

2.4 Small WWTP National Plan and the environmental assessments

The Small WWTP National Plan will set out a national approach to improving WWTPs in small communities, and will be supported by an Environmental Assessment Methodology (EAM) providing a streamlined approach to the environmental assessment of small WWTPs that can be applied nationally. The ultimate aim of the EAM is to develop a model which can be applied to all small WWTPs <1,000 PE that can identify from a range of standard upgrade solutions, the most appropriate for the population size and ,to ensure that receiving water bodies do not deteriorate in WFD status, considering Ammonia, BOD and Ortho-P under various wastewater assimilative capacity (WAC) scenarios.

The EAM will adopt a source-pathway-receptor approach to determine the current impacts (and projected impacts considering future population growth and climate change) of small WWTPs to receiving water bodies. Data inputs will include WWTP data i.e. collected and design PE, effluent flows, concentrations and treatment type and environmental data i.e. river flows, ambient water quality, WFD status and objectives and Protected Area objectives. The resulting loadings of the selected standard solution to surface water bodies will be assessed against the existing status as reported by the EPA, the statistically significant trends and the capacity of the receiving environment to assimilate the potential impact. This will ensure a consistent approach with the EPA characterisation process and will also consider the protected area interests of water dependent protected areas, e.g. SACs/SPAs.

It will be developed iteratively to environmental assessments being undertaken as illustrated in Figure 2-3.

[1] Accelerating_Infrastructure_Report_and_Action_Plan.pdf

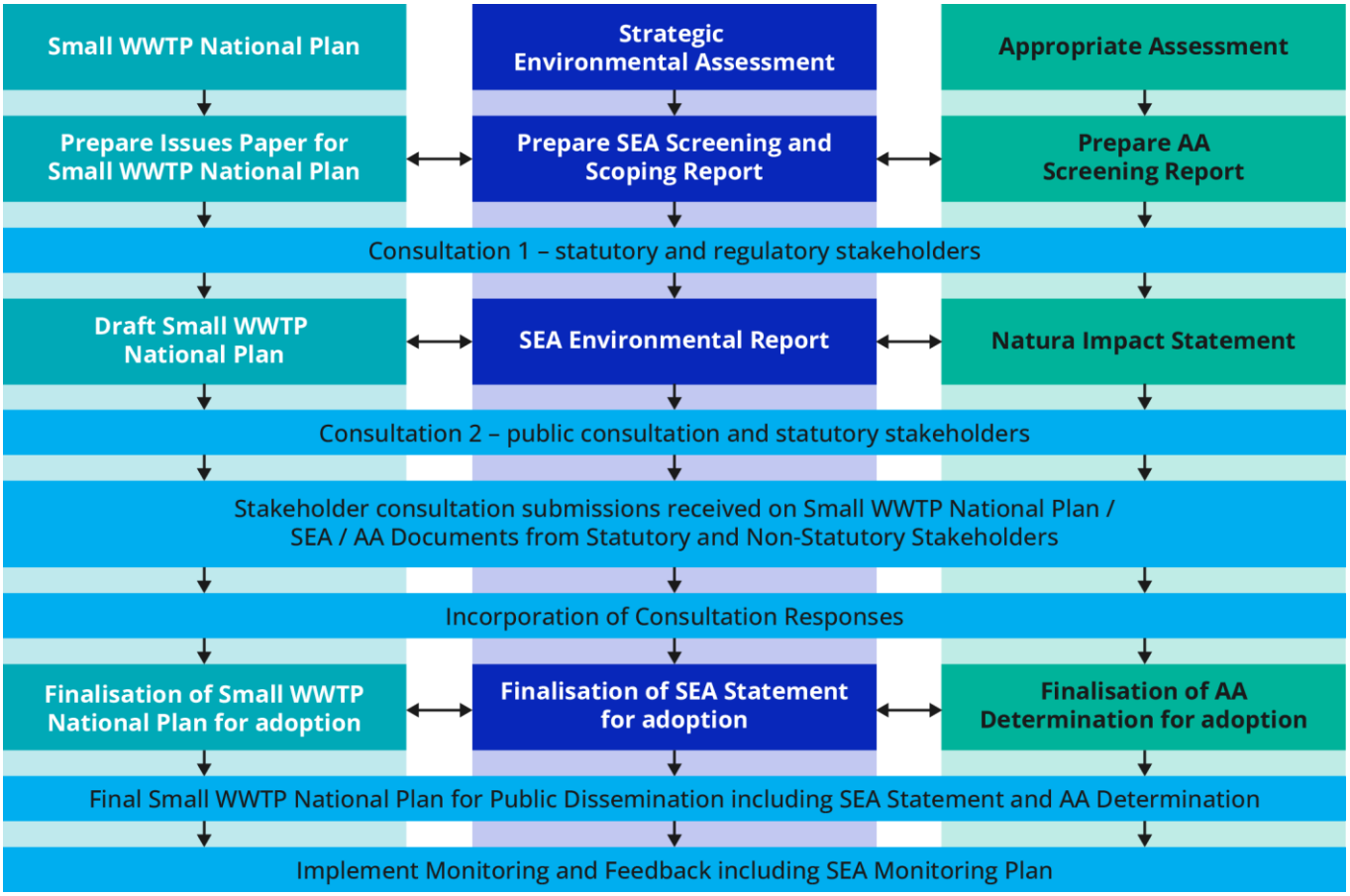

Figure 2-3 Development of Plan with the Environmental Assessments

SEA Scoping Questions – Chapter 2

8. **Do you have any suggestions that you would like Uisce Éireann to consider in the preparation of the Plan?**
9. **Do you have any comments on the approach to the Strategic Environmental Assessment (SEA) for the Plan?**

3 Environmental Baseline

3.1 Introduction

This section of the SEA Scoping Report presents preliminary information on the existing baseline environment including:

- Description of the existing baseline environment – an overview of the current environmental conditions, based on available information, which provides a benchmark against which the potential environmental effects of the Plan can be assessed;
- Future trends – an outline of the likely future trends and the basis for the potential evolution of the existing baseline environment in the absence of the Plan; and
- Key considerations for the development of Plan and undertaking SEA – a summary of the key issues arising from the review of the existing baseline environment and future trends and pressures that are most relevant to the development of the Strategy, including key challenges and opportunities, to help focus the environmental assessment and inform the SEA and plan development.

3.2 Types of Actions and Activities influenced by the Small WWTP National Plan

As background for the scoping assessment, the broad types of activities that Uisce Éireann will be responsible for during the implementation of the Plan are considered, to identify the types of impacts that could give rise to significant environmental effects at a national level. These activities and their potential environmental impacts are summarised in Table 3-1 below.

Table 3-1 Types of Plan related activities and potential environmental impacts

Plan related activity	Potential types of environmental Impacts
Development, upgrade and optimisation of small wastewater treatment plants (<1000 PE) and associated infrastructure, pumping stations, discharge outfalls, pump away to other WWTPs, and ancillary works (during construction, operation and decommissioning)	▪ Temporary and permanent land take and land-use change. ▪ Loss or alteration of habitats and habitat areas. ▪ Disturbance to flora and fauna (short-term during construction/decommissioning and longer-term during operation). ▪ Habitat fragmentation including barrier effects to species movement. ▪ Species mortality (including aquatic and terrestrial species). ▪ Localised changes in hydrology and hydrogeology. ▪ Potential transfer of invasive non-native species during construction and operational activities. ▪ Construction-related impacts including noise, air quality, water quality, vibration, visual amenity and traffic disruption affecting nearby receptors. ▪ Impacts on cultural heritage, including effects on known sites and potential disturbance to previously unrecorded archaeological remains. ▪ Landscape, townscape and (where relevant) seascape impacts depending on plant size, design and location. ▪ Effects on soils and geological features, because of excavation and compaction. ▪ Use of energy, materials and natural resources, generation of waste, and associated carbon emissions. ▪ Potential long-term benefits arising from improved wastewater treatment standards, operational efficiency, and network reliability. ▪ Odour impacts from treatment processes, with potential for improvement through technology upgrades and operational management.

Plan related activity	Potential types of environmental Impacts
	▪ Potential vulnerability of assets and operations to climate change, including increased frequency of storms, flooding, droughts and temperature extremes.
Discharge of treated effluent, stormwater overflows and residual untreated discharges (where applicable)	▪ Risks to surface water and groundwater quality, potentially affecting Water Framework Directive objectives for rivers, lakes, groundwater bodies, transitional and coastal waters. ▪ Impacts on aquatic ecology and biodiversity, including effects on protected sites and species, and on ecosystem services such as fisheries, shellfish production, bathing waters and amenity use. ▪ Localised landscape and visual impacts associated with visible pollution, algal growth or reduced water clarity. ▪ Potential cumulative effects in catchments with multiple small wastewater discharges. ▪ Reduced resilience of receiving waters to climate change and other pollutant pressures.
Wastewater sludge generated by small wastewater treatment plants	▪ Potential for environmental pollution associated with sludge handling, storage, transport and disposal. ▪ Opportunities for resource recovery and circular economy benefits (e.g. agricultural use, where compliant with regulations). ▪ Implications of treatment processes for sludge volume, quality and disposal routes.
Other types of activity	▪ These may include a range of complementary actions, many of which have the potential to deliver beneficial environmental effects, such as: ▪ Catchment-based management measures to support water quality or reduce flood risk and the use of Nature-Based Solutions (NBS) to support effluent water quality, often requiring collaboration with local authorities, communities and other stakeholders, with potential wider benefits for water quality, biodiversity and climate adaptation. ▪ Awareness-raising, behavioural change initiatives and upstream measures aimed at reducing pollutant loads entering small wastewater systems and receiving environments. ▪ Innovation in treatment technologies to address emerging contaminants and regulatory requirements. ▪ Asset management, investigations, monitoring programmes, surveys, studies and mitigation measures to inform decision-making, improve system performance, reduce environmental impacts and address uncertainties.

3.3 SEA Topics

The SEA environmental baseline information for the Plan is presented under the following environmental topics and corresponding section headings:

- Water Environment;
- Population, Human Health and Communities, including local economy, tourism and recreation;
- Climate Change;
- Biodiversity, including flora and fauna;
- Material Assets, including wastewater infrastructure and related services;
- Landscape, Townscape and Seascape;

- Cultural Heritage, including archaeological and architectural heritage;
- Geology and Soils;
- Air Quality;
- Noise and Vibration; and
- Transboundary Environment.

3.4 SEA Study Area

The spatial areas used for the SEA of the Plan are defined as follows:

- Study area - The national territory of Ireland, reflecting the strategic and country-wide scope of the Plan and its applicability to small wastewater treatment plants and associated infrastructure across urban, rural and coastal locations;
- Zones of influence for European designated sites - This includes all European sites (Natura 2000 sites), located partially or fully within or outside study area, which, when applying the "source–pathway–receptor" model, have been identified as having potential impact pathways linking the implementation of the Plan to European sites, in view of their conservation objectives. Zones of influence are defined in support of the Appropriate Assessment (AA) Screening process (Table 4-1); and
- Zones of influence for Water Framework Directive (WFD) water bodies - These comprises surface waters and groundwater bodies that may be influenced by small wastewater treatment plants addressed by the Plan. These zones of influence are informed by relevant catchment boundaries and hydrological connectivity and are used to identify WFD water bodies within and, where relevant, outside the study area for assessment purposes.

The study area is illustrated in Figure 2-1 within this SEA Scoping Report, including the small wastewater treatment plants within the island of Ireland. European sites for AA Screening are identified in the accompanying AA Screening Report (Appendix A).

Given the localised nature of small wastewater treatment plants and the regulatory controls governing wastewater discharges in Ireland, the implementation of the Plan is not expected to give rise to significant transboundary environmental effects, however given uncertainty over current effects and potential for benefits within shared catchments , transboundary effects will be considered as part of the environmental assessment of the Small WWTP National Plan. Potential interactions with shared marine waters or cross-border river basin districts are expected to be largely indirect and localised. However, there may be potential for cumulative effects including beneficial effects. These will be considered taking account the existing legislative frameworks, including the Water Framework Directive and the Marine Strategy Framework Directive and the relevant Republic of Ireland (ROI) and Northern Ireland (NI) policy and plans. The relevant baseline information for Northern Ireland is provided in section 3.18.

3.5 SEA Time Frame

The temporal scope for the SEA of the Plan covers the period from 2025 to 2075. The Small WWTP National Plan considers this timeframe to reflect both short- to medium-term investment planning over a 25 year period and longer-term design horizons extending to 2075, which are relevant for the sustainable management and resilience of small wastewater treatment plants nationwide.

Options proposed within the current iteration of the Plan are intended to support the delivery of these longer-term solutions, while remaining flexible to respond to future changes in policy, population, environmental conditions and climate change.

The extended long-term horizon presents challenges in establishing a robust environmental baseline for the later stages of the assessment period. However, the Plan will be revised and updated on a regular basis, and the SEA will be revised and updated alongside future iterations of the Plan to reflect improved data availability, monitoring outcomes, and evolving environmental and regulatory contexts.

3.6 High Level Environmental Trends Across Ireland

The EPA's most recent State of the Environment Report (SOER)[2] provides:

- An assessment of the overall quality of Ireland's environment;
- An overview of the key pressures affecting environmental quality; and
- Identification of the key actions required to address these pressures.

The following areas identified in the SOER as key environmental challenges at a national level are particularly relevant to the development and implementation of the Plan:

- Climate: Greenhouse gas (GHG) emissions in Ireland remain high, and the scale and pace of emissions reductions must accelerate in order to meet national targets set out in Ireland's Climate Action Plans. In this context, wastewater treatment infrastructure, including small wastewater treatment plants, represents a source of energy use and associated emissions but also provides opportunities for operational efficiencies and emissions reduction;
- Water: Long-term trends indicate declining water quality over the past two decades, particularly in rivers, lakes, estuaries and coastal waters. Small wastewater treatment plants can represent significant pressures on receiving waters, especially in sensitive and rural catchments, making water quality protection and compliance with the Water Framework Directive a key consideration for the Plan;
- Biodiversity: The condition of protected habitats continues to deteriorate, with a high proportion of EU-protected habitats assessed as having unfavourable conservation status. Trends for EU-protected species are mixed; however, freshwater-dependent species are among those most at risk. The location, discharge characteristics and cumulative effects of small wastewater treatment plants are therefore particularly relevant in the context of biodiversity protection; and
- Waste, soil health and the circular economy (including the EU Soil Strategy objective to achieve good soil health by 2050): These issues are closely linked to wastewater treatment through sludge management, land application practices, resource efficiency and opportunities for material recovery. Improvements in these areas can deliver co-benefits for climate mitigation, water quality and biodiversity. The approaches for sludge management will be determined through the National Bioresource Strategy.

Further detail on the baseline conditions for each of these topic areas is provided in the relevant baseline sections of this SEA.

The environmental challenges identified in the SOER that are relevant to the Plan also align closely with the following United Nations Sustainable Development Goals (SDGs):

- SDG 6 – Clean Water and Sanitation: Ensure availability and sustainable management of water and sanitation for all;

[2] Environmental Protection Agency (EPA). 2024. Ireland's State of the Environment Report 2024. Accessed: April 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/state-of-the-environment/irelands-state-of-the-environment-report-2024.php

- SDG 13 – Climate Action: Take urgent action to combat climate change and its impacts;
- SDG 14 – Life Below Water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development; and
- SDG 15 – Life on Land: Protect, restore and promote the sustainable use of terrestrial ecosystems, halt biodiversity loss and reverse land degradation.

Ireland is expected to experience continued population growth over the coming decades, which has direct implications for wastewater treatment infrastructure capacity, performance and environmental resilience. This is particularly relevant to the management of small wastewater treatment plants and their role in protecting the water environment, supporting compliance with the Water Framework Directive, and contributing positively to SDGs 6 and 14.

Progress towards achieving the United Nations (UN) SDGs in Ireland is monitored through national indicators, as reported on Ireland's SDG data hub[3], including Central Statistics Office (CSO) reporting on SDG 6 – Clean Water and Sanitation[4], which provides context for the development and assessment of the Plan.

3.7 Sources

A wide range of publicly available sources of information has been used to inform the identification and description of the baseline environment for the SEA of the Plan. These include web-based searches, published reports and studies, and Geographic Information Systems (GIS) datasets available at national and regional levels.

These sources, along with Uisce Éireann's own data, are referred to in the relevant topic sections and a reference list for the sources is provided at the end of the report. Key general sources for the review of the existing baseline environment for the SEA of Plan also include:

- The EPA https://gis.epa.ie/EPAMaps/ and https://enviromap.ie/;
- The Central Statistics Office (CSO) https://www.cso.ie/en/index.html;
- The National Parks and Wildlife Service (NPWS) https://www.npws.ie/; and
- The European Environment Agency (EEA) https://www.eea.europa.eu/.

3.8 Water Environment

Ireland is often called the "Emerald Isle," a name that reflects its rich green landscape and frequent rainfall. Water has long been central to shaping the country's cultural identity and sustaining its diverse ecosystems. Ireland has some of the best water quality and cleanest beaches in Europe. Ireland's climate means that there is usually enough water to meet the needs of its people and the surrounding environment[5].

However, water quality is a growing concern. Many of Ireland's rivers are contaminated by agricultural runoff, industrial discharge, and untreated sewage. In addition, close to 50% of surface waters—such as rivers, lakes, wetlands, and coastal areas—fail to meet EU environmental standards. This not only damages habitats for wildlife but also poses risks to the nation's drinking water supply[6].

[3] Government of Ireland. 2023. Ireland's Sustainable Development Goals (SDGs) data hub. Accessed: May 2026. Available from: https://irelandsdg.geohive.ie
[4] Central Statistics Office (CSO). 2025. Ireland's UN SDGs - Goal 6 Clean Water and Sanitation 2024. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-sdg6/irelandsunsdgs-goal6cleanwaterandsanitation2024/overview-cleanwaterandsanitationinireland/
[5] EPA. N.d. Environment and You - Freshwater and Marine. Accessed: June 2026. Available from: https://www.epa.ie/environment-and-you/freshwater-and-marine/
[6] European Commission. N. d. Water Wise EU – Ireland. Accessed: June 2026. Available from: https://environment.ec.europa.eu/topics/water/water-wise-eu/ireland_en

Water bodies in Ireland—including rivers, lakes, estuaries, coastal waters, and groundwater—are evaluated under the EU Water Framework Directive (WFD), which was introduced in December 2000. This legislation provides a standard approach across Europe, making it possible to compare water quality between countries. Under the WFD, surface water is rated using five categories: High, Good, Moderate, Poor, and Bad. A "High" rating indicates water that is largely untouched by pollution, while "Bad" reflects severe contamination. Groundwater is assessed more simply, with just two categories: Good or Poor. The directive helps pinpoint where improvements are needed, whether that means raising water quality to a "Good" level or preserving areas that are already in "Good" or "High" condition. It also guides the actions required to achieve these goals. By implementing focused measures to limit the effects of human activity, water bodies can be restored and protected.

Environmental objectives for water bodies, as defined under the Water Framework Directive are legally binding targets to protect, maintain and restore water quality. These require that all water bodies achieve at least "good status," prevent deterioration in existing status, and improve those below good status through measures set out in River Basin Management Plan. In addition, specific protection is afforded to High Status Objective water bodies, which must be maintained at, or restored to, near-pristine (high) ecological condition[7].

Ireland's response to managing and improving water quality is set out in the River Basin Management Plan. This strategy document is produced every six years by the Department of Housing, Local Government and Heritage. It outlines specific policies, actions, and interventions aimed at safeguarding and enhancing the condition of the country's water resources.

3.8.1 Water Environment Baseline Conditions

Water Quality

EPA's latest (2025) report on water quality indicates that over half (52%) of Ireland's surface waters are in satisfactory ecological health being in either good or high ecological status. This means that 48% of the surface water bodies in Ireland are not as ecologically healthy or resilient as they should be. This is a decline from the previous assessment when 54% were satisfactory.

All surface water bodies failed to achieve good chemical status in 2019-2024 when the assessment included what are known as ubiquitous substances. Ubiquitous substances are found nearly everywhere in the environment, and they persist in the environment for many years after their use has ceased. Many of the failures were due to the presence of Poly Brominated Diphenyl Ethers (PBDEs) and mercury in fish, which were found at concentrations above environmental standards almost everywhere where they were monitored for. These are both ubiquitous substances and their use is restricted. PBDEs are banned in Europe (since 2010), while Ireland is signatory to the Minamata Convention that has led to many mercury containing materials being phased out. When ubiquitous substances (PBDEs and mercury in fish) are excluded, only 18% of surface water bodies fail to achieve good chemical status, indicating 82% are in good chemical status. Mercury in water and other metals in water, pesticides, and per- and poly-fluoroalkyl (PFAS) chemicals in water are the main causes of non-ubiquitous failures.

In the latest assessment, covering the years 2019 to 2024, the number of water bodies in satisfactory condition (high or good status) across rivers, lakes, estuaries and canals declined since the last assessment which covered the period 2016-2021. In contrast, coastal waters and groundwaters improved slightly over the assessment period. Overall, there has been a net decline in Ireland's water quality. The slight decline reported in the latest assessment reflects the ongoing pattern of continuing declines in water quality seen since the first assessment of ecological status was undertaken in the period 2007-2009 (Figure 3-1).

[7] EPA. 2026. About the Water Framework Directive. Accessed: June 2026. Available from: https://www.catchments.ie/guide-water-framework-directive/

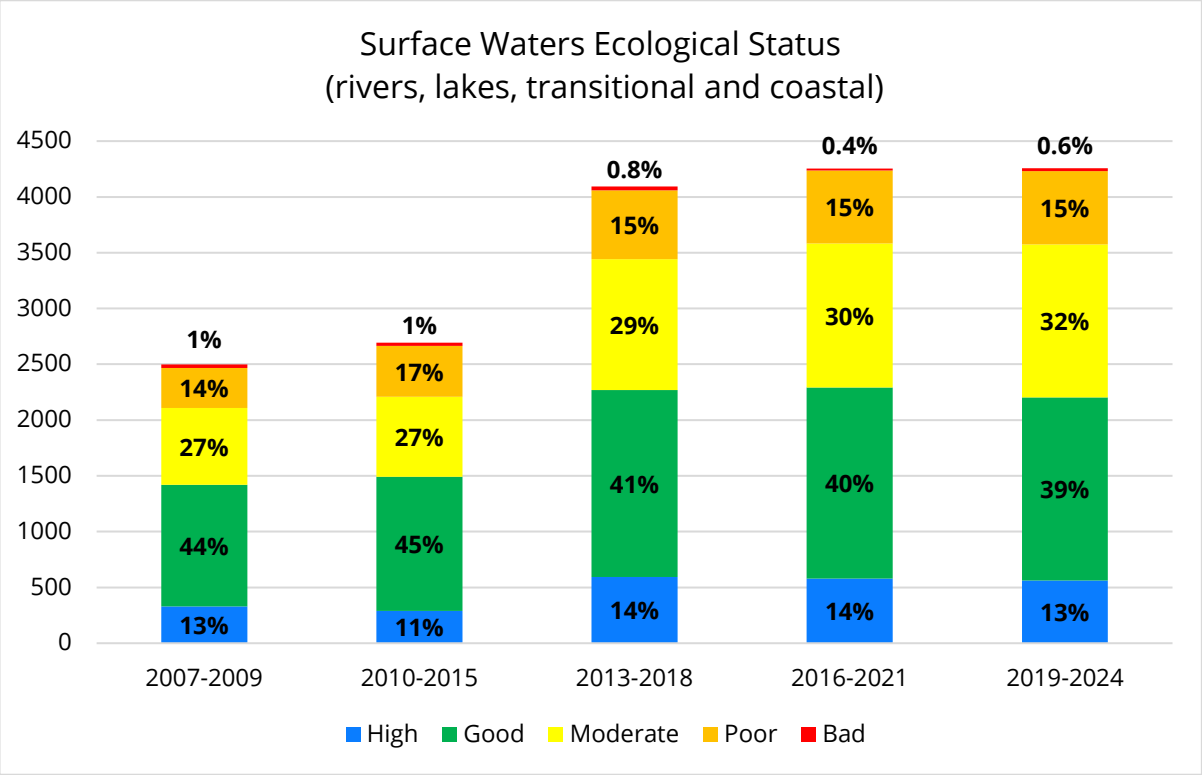

Figure 3-1 Ecological status of surface waters across the five monitoring cycles (not including unassigned water bodies)[8]

The quality of our freshwater and marine ecosystems is being damaged by activities that release pollutants into the water environment and damage the physical integrity of water habitats. The main causes are:

- Run-off of nutrients, sediment and pesticides from agricultural lands and farmyards;
- Activities such as land drainage, dredging and the presence of barriers such as dams, weirs or culverts in water courses;
- Discharges of poorly treated sewage from urban wastewater treatment plants, domestic treatment systems and storm water overflows;
- Run-off from hard surfaces in urban environments of sediment and contaminant loaded water; and
- Run-off of nutrients and sediment from forestry operations.

The concentration of nutrients in many of our waters is too high. 44% of river sites, mostly in the south and southeast of the country, have high nitrate concentrations while over a quarter of river sites (27%) and a third of lakes (32%) have elevated phosphorus concentrations. Phosphorus levels are particularly high in lakes in the northeast of the country.

Rivers

Ireland has more than 84,800 km of rivers and streams, forming an extensive network that connects headwaters to almost every town and community across the country (Figure 3-2). To assess water quality across this network, Ireland operates a national monitoring programme that gathers representative data from specific river sections, known as water bodies. In total, 3,192 river water bodies have been identified, with 2,404 (75%) currently included in the monitoring programme. Table 3-2 presents the number of rivers within each ecological status category.

[8] EPA. 2026. WFD National Summary 2019 – 2025. Accessed: June 2026. Available from: https://gis.epa.ie/GetData/Download

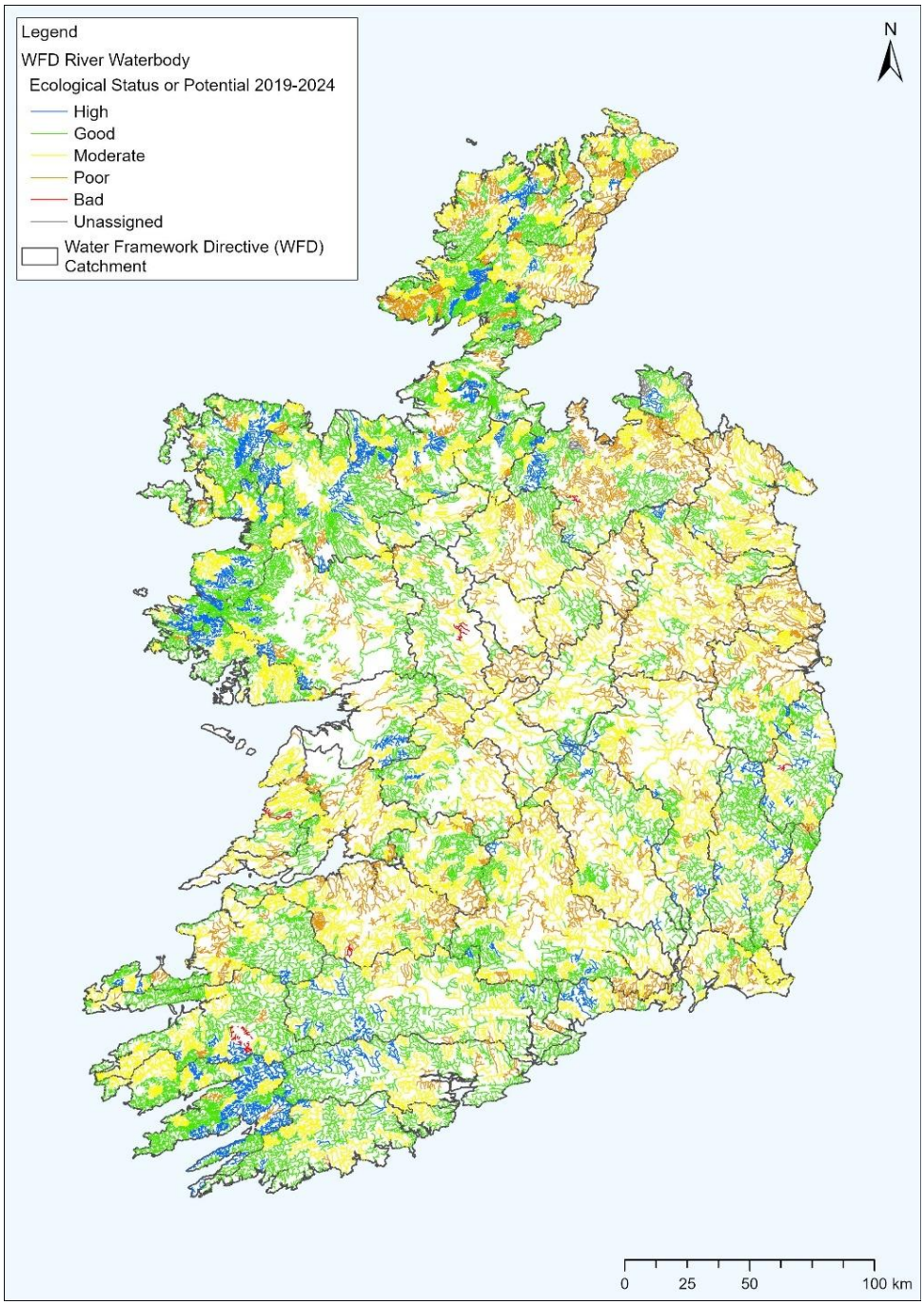

Figure 3-2 WFD Ecological Status of Water bodies 2019-2024[8]

Of these, 1,523 (48%) are classified as having high or good ecological status, while 1,666 (52%) fall into moderate, poor, or bad status categories (Figure 3-3). This reflects a slight decline of 2% in water bodies achieving high or good status compared to the 2016–2021 period.

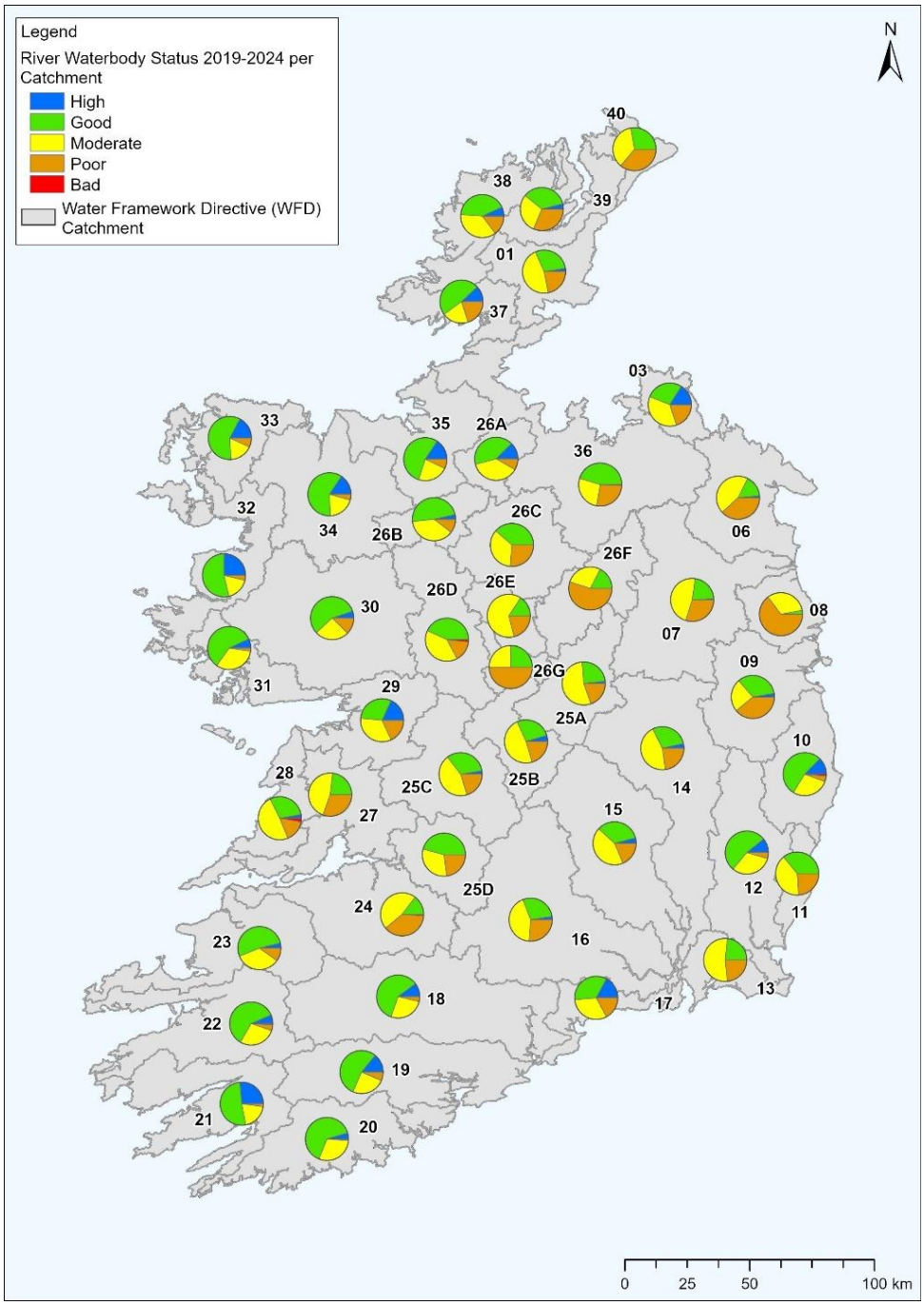

Figure 3-3 WFD River Water bodies Status 2019 - 2024 per Catchment[8]

Nutrient levels remain a concern, with 44% of monitored river sites recording average nitrate concentrations above 8 mg/l NO_3, which exceeds the threshold associated with good ecological status. This is a small increase from 43% in the 2019–2021 period. Additionally, only 42% (139 out of 334) of river water bodies set with a high-status objective are currently meeting that target.

Regional differences are evident: counties such as Mayo and Wicklow have the highest proportions (over 70%) of rivers in high or good condition, whereas Kildare, Louth, and Meath have the lowest (20% or less).

When comparing the latest assessment with the 2016–2021 period, the status of 1,723 monitored water bodies has remained stable, 387 have deteriorated, and 294 have improved. Overall, this results in a net decline of 93 water bodies. A breakdown of these changes by status category is provided in Figure 3-4.

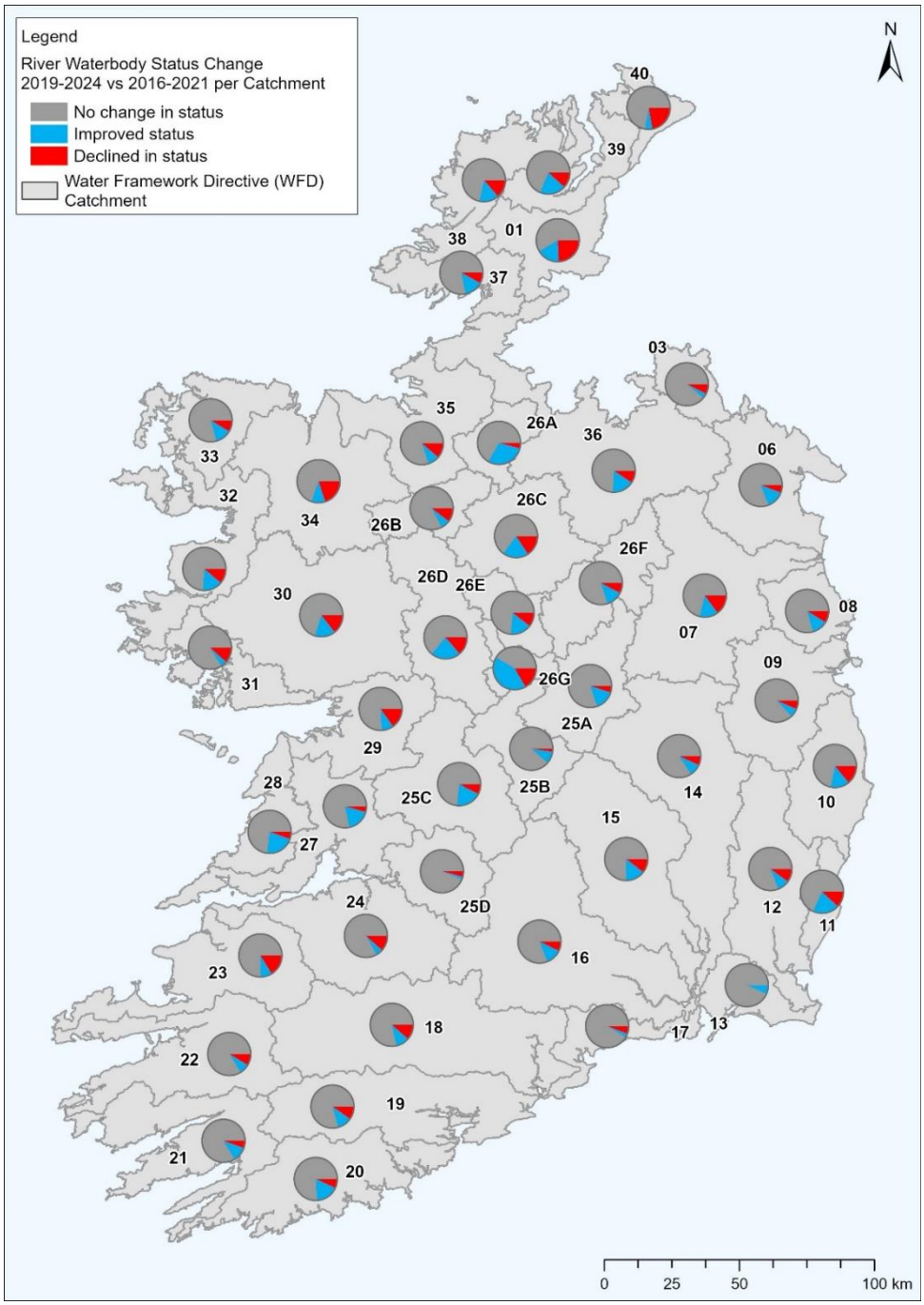

Figure 3-4 River Water bodies status change 2019 - 2024 vs 2016 - 2021[8]

Table 3-2 WFD Ecological status Cycle 3 2019 – 2024 of river water bodies in Ireland

WFD catchment	Number of water bodies	WFD ecological status					
		High	Good	Moderate	Poor	Bad	Unassigned
Ballyteigue-Bannow	30	0	7	16	7	0	0
Bandon-Ilen	87	4	56	26	1	0	0
Lough Neagh & Lower Bann	28	4	7	10	5	0	2
Barrow	145	5	42	65	33	0	0

WFD catchment	Number of water bodies	WFD ecological status					
		High	Good	Moderate	Poor	Bad	Unassigned
Blacksod-Broadhaven	58	10	34	10	4	0	0
Blackwater (Munster)	158	16	94	42	6	0	0
Boyne	114	1	25	54	34	0	0
Colligan-Mahon	43	6	12	10	6	0	0
Corrib	97	5	55	25	12	0	0
Donagh-Moville	36	0	10	13	13	0	0
Donegal Bay North	50	6	24	10	10	0	0
Dunmanus-Bantry-Kenmare	91	24	47	18	2	0	1
Erne	129	9	54	32	32	1	0
Erriff-Clew Bay	80	20	43	14	3	0	0
Foyle	41	1	12	19	9	0	0
Galway Bay North	43	3	25	14	1	0	0
Galway Bay South East	33	6	10	11	6	0	0
Gweebarra-Sheephaven	88	6	37	32	13	0	0
Laune-Maine-Dingle Bay	93	6	56	26	4	1	0
Lee, Cork Harbour and Youghal Bay	92	13	50	23	6	0	0
Liffey and Dublin Bay	77	2	26	19	30	0	0
Lough Swilly	51	2	18	15	16	0	0
Lower Shannon	231	5	75	103	48	0	0
Mal Bay	37	1	11	18	6	1	0
Moy & Killala Bay	115	18	69	23	5	0	0
Nanny-Delvin	34	0	1	11	22	0	0
Newry, Fane, Glyde and Dee	68	1	11	30	26	0	0
Nore	123	5	42	53	23	0	0
Ovoca-Vartry	71	9	38	20	3	1	0
Owenavorragh	25	0	9	10	6	0	0
Shannon Estuary North	69	0	16	32	21	0	0
Shannon Estuary South	95	0	14	44	36	1	0
Slaney & Wexford Harbour	111	12	59	35	5	0	0
Sligo Bay	70	11	38	16	5	0	0
Suir	168	4	48	72	44	0	0
Tralee Bay-Feale	80	3	42	27	8	0	0
Upper Shannon	240	4	84	90	61	1	0

High Status Objective Water bodies

Under the Water Framework Directive, protecting and restoring high-status (or "blue dot") water bodies is a key requirement. In Ireland, 319 river water bodies were designated with a high-status objective during Cycle 2, increasing to 334 in Cycle 3.

During the 2019–2024 assessment period, 139 (39%) of these 334 high-status objective water bodies achieved high ecological status. The remaining 195 were below this level, with most (151) classified as being in good status, while 44 were assessed as being below good status.

In terms of changes over time, 260 of these monitored water bodies showed no change in ecological status compared to the previous assessment. However, 44 declined in status and 30 showed improvement. Overall, this equates to a net loss of 14 high-status objective water bodies, representing a decrease of 4.2% over the period.

Lakes

Ireland's lakes are not evenly spread across the country, with the greatest concentrations located in the west and northeast. Between 2019 and 2024, the national water quality monitoring programme evaluated 224 lakes, representing 84% of Ireland's total lake area. These include most of the larger lakes, particularly those used as sources for drinking water, as well as lakes of regional, local, or scientific importance due to their protected habitats and species.

Across the country, 553 lakes (68%) have been classified as having high or good ecological status, while 259 lakes (32%) fall into moderate, poor, or bad status categories. Compared with the 2016–2021 period, there has been a slight decrease (0.5%) in the proportion of lakes considered to be in satisfactory ecological condition. Although total phosphorus levels have remained stable in the majority of lakes (85%) since 2016, approximately one-third (32%) still exceeded the environmental quality threshold of 0.025 mg/l phosphorus.

Lakes with high or good ecological status are predominantly found in the southwest, west, and northwest regions, whereas those with moderate or lower status are more common in the northeast (Figure 3-5). This pattern largely reflects regional differences in human pressures, underlying geology, and soil characteristics.

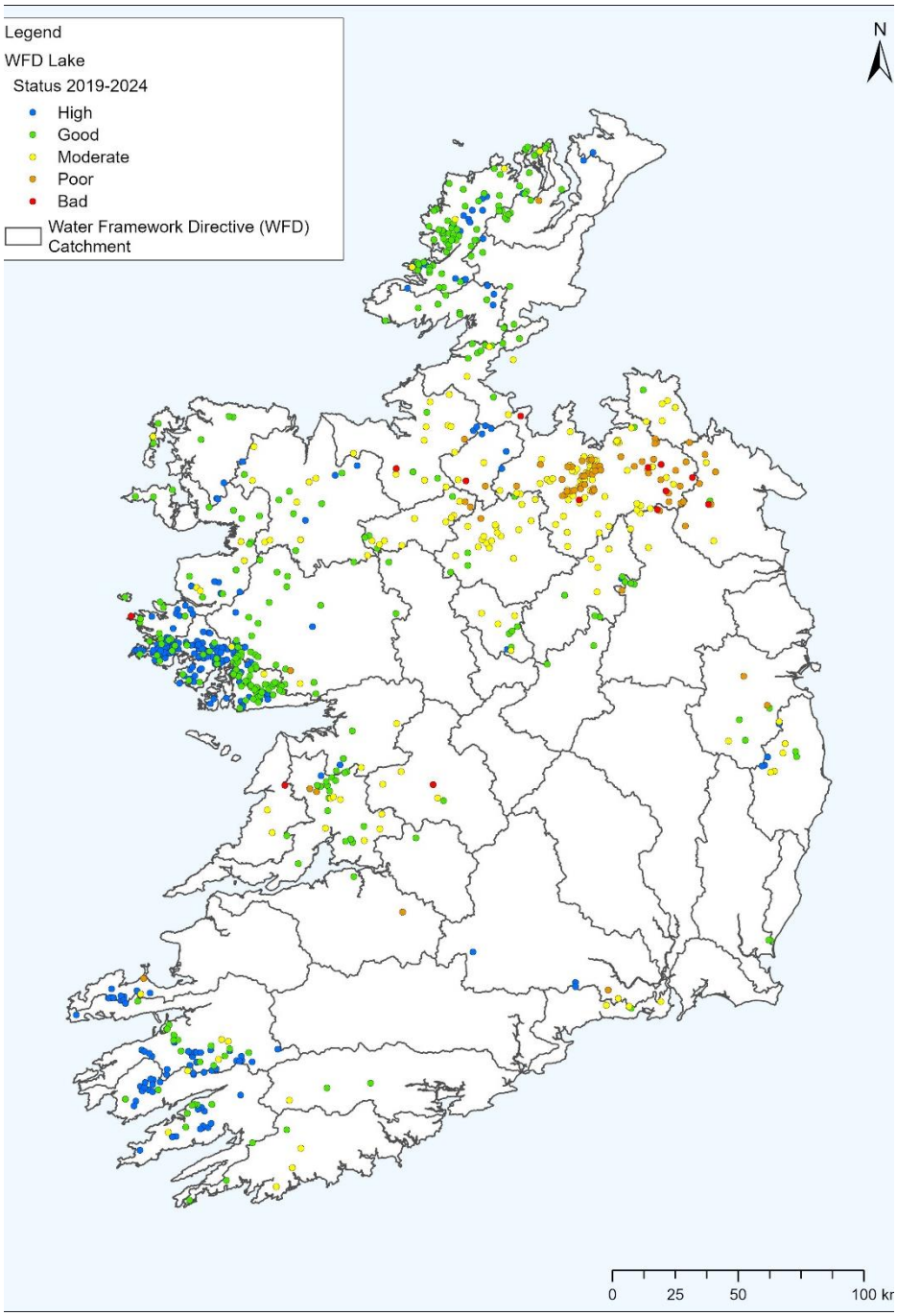

Figure 3-5 WFD ecological status of lakes in Ireland, 2019 – 2024[8]

Table 3-3 WFD Ecological status Cycle 3 2019 – 2024 of lake water bodies in Ireland

WFD catchment	Number of water bodies	WFD ecological status				
		High	Good	Moderate	Poor	Bad
Ballyteigue-Bannow	0	0	0	0	0	0
Bandon-Ilen	13	4	8	1	0	0
Lough Neagh & Lower Bann	6	0	1	4	1	0
Barrow	0	0	0	0	0	0
Blacksod-Broadhaven	13	4	8	1	0	0

WFD catchment	Number of water bodies	WFD ecological status				
		High	Good	Moderate	Poor	Bad
Blackwater (Munster)	0	0	0	0	0	0
Boyne	10	1	4	2	2	1
Colligan-Mahon	2	0	0	2	0	0
Corrib	30	5	23	1	1	0
Donagh-Moville	1	1	0	0	0	0
Donegal Bay North	12	4	8	0	0	0
Dunmanus-Bantry-Kenmare	39	28	9	2	0	0
Erne	130	1	10	69	44	6
Erriff-Clew Bay	80	52	23	4	0	1
Foyle	5	1	4	0	0	0
Galway Bay North	146	84	60	2	0	0
Galway Bay South East	6	1	3	2	0	0
Gweebarra-Sheephaven	83	17	62	4	0	0
Laune-Maine-Dingle Bay	44	27	14	3	0	0
Lee, Cork Harbour and Youghal Bay	3	0	2	1	0	0
Liffey and Dublin Bay	6	0	2	1	2	0
Lough Swilly	9	1	7	0	1	0
Lower Shannon	9	0	6	2	0	1
Mal Bay	4	0	1	2	0	1
Moy & Killala Bay	19	3	7	9	0	0
Nanny-Delvin	0	0	0	0	0	0
Newry, Fane, Glyde and Dee	9	0	1	2	5	1
Nore	0	0	0	0	0	0
Ovoca-Vartry	11	4	2	5	0	0
Owenavorragh	1	0	1	0	0	0
Shannon Estuary North	26	1	16	7	2	0
Shannon Estuary South	2	0	1	0	1	0
Slaney & Wexford Harbour	1	0	1	0	0	0
Sligo Bay	18	2	3	11	1	1
Suir	7	3	1	2	1	0
Tralee Bay-Feale	12	10	0	1	1	0
Upper Shannon	59	5	14	35	4	1

Groundwater water bodies

Out of 514 groundwater bodies assessed, 471 (92%) achieved both good chemical and quantitative status between 2019 and 2024, representing 95% of the national area (68,012 km²) (Figure 3-6). Among the

remaining 43 groundwater bodies classified as having poor status, 37 did not meet the required chemical standards, while six failed to meet the quantitative criteria.

During this period, 94% of monitoring sites recorded average nitrate concentrations below the threshold of 37.5 mg/l NO_3. Elevated nitrate levels continue to be most prevalent in the southeast, as well as in the midlands and eastern regions, with the latter experiencing the greatest increase since 2019. This rise is largely linked to nutrient runoff from agricultural activities.

For phosphate, average concentrations remained below the threshold of 0.035 mg/l P at 91% of monitoring points, showing minimal change compared to the 2016–2021 assessment period[9].

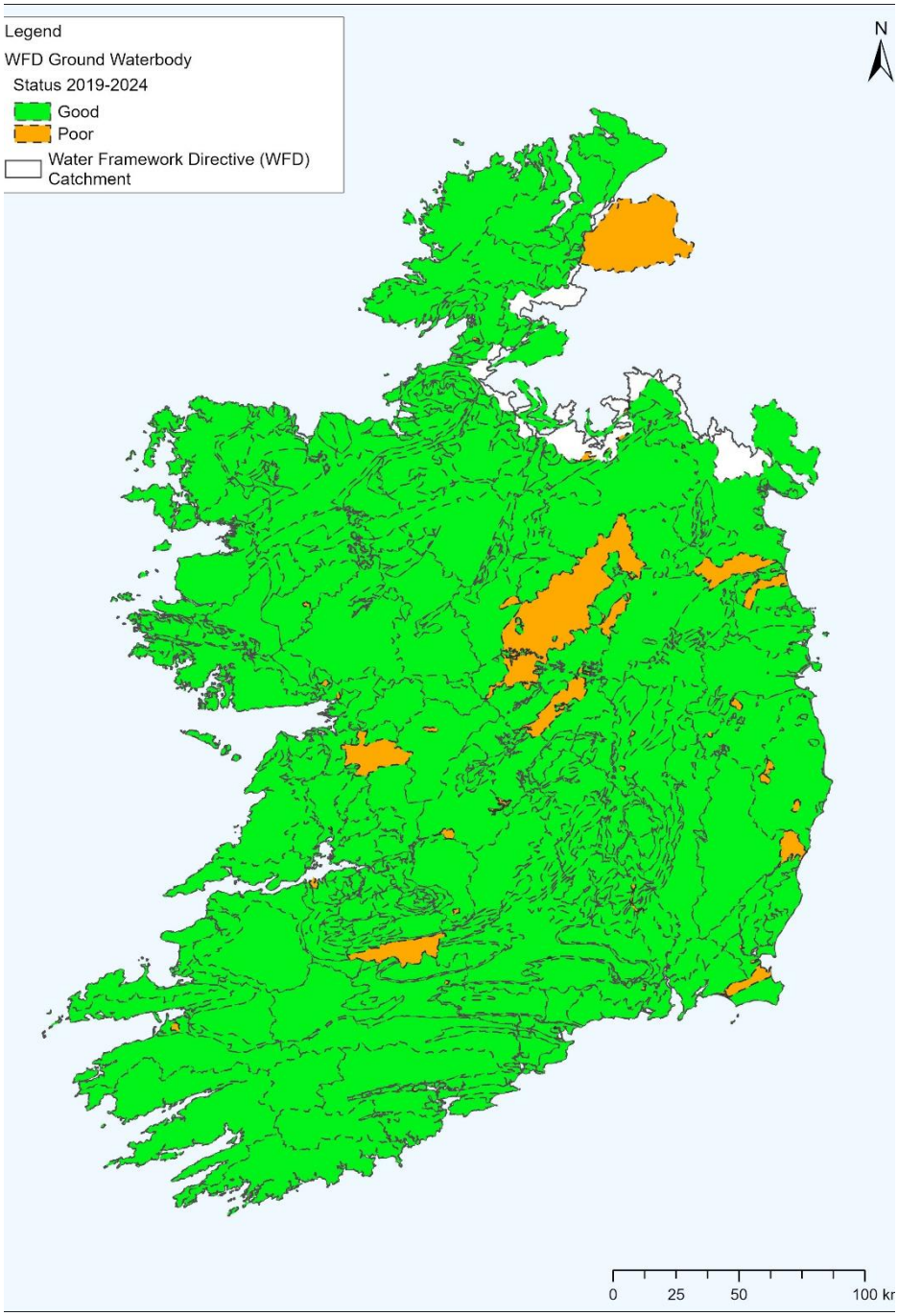

Figure 3-6 WFD Status of Groundwater Water bodies 2019 - 2024[8]

[9] EPA. 2024. Water Quality in Ireland 2019-2024. Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/EPA-Water-Quality-in-Ireland-Report.pdf

Overall, there has been little change in groundwater status since the 2016-2021 assessment period, with eight groundwater bodies declining to poor status and nine groundwater bodies improving to good status. Of the 43 poor status groundwater bodies, 37 are at poor chemical status and six are at poor quantitative status. In relation to groundwater bodies which supply drinking water, four were assigned poor chemical status. Overall, when compared to the previous assessment, this is a reduction from seven to four at poor status arising from the drinking water assessment.

EPA's screening analysis for a wide suite of hazardous substances (volatile and semi-volatile organic chemicals, pharmaceuticals and PFAS type compounds) and pesticides in groundwater was undertaken in 2020 at 197 groundwater monitoring stations across the groundwater monitoring network. This screening, along with the screening undertaken from 2007-2009 and 2014 has shown that very few of these substances are found in groundwater in Ireland, and where they are found, they are typically at low concentrations.

Transitional (Estuarine) and Coastal Waters

In Ireland, transitional and coastal waters extend over more than 14,000 km², comprising 844 km² of transitional waters and 13,325 km² of coastal waters (Figure 3-7). These environments include a diverse range of water types, such as lagoons, estuaries, large bays, and exposed coastal areas. Transitional waters refer specifically to estuaries and lagoons. Their ecological condition has been evaluated using data collected between 2019 and 2024, reflecting the longer (six-year) timeframe required for many biological assessments.

Ireland's saline waters consist of 307 designated water bodies, including 110 coastal and 197 transitional systems, with around 40% currently included in the national monitoring programme. Of the transitional waters assessed, 48 (30%) are classified as having high or good ecological status, while 112 (70%) fall into moderate, poor, or bad categories. In contrast, coastal waters generally perform better: 80 water bodies (82%) are in high or good status, 14 (15%) are moderate, and only three are classified as poor or bad. When considering surface area, 98% of coastal waters achieve high or good ecological status.

However, nutrient pressures remain an issue, with around 20% of transitional and coastal water bodies exhibiting excessive nitrogen concentrations. Although nutrient inputs—particularly phosphorus and nitrogen—declined in 2024 following a period of increases since 2013, the highest loads are still found in the southeast. In many areas, these inputs remain above acceptable levels despite the recent improvements.

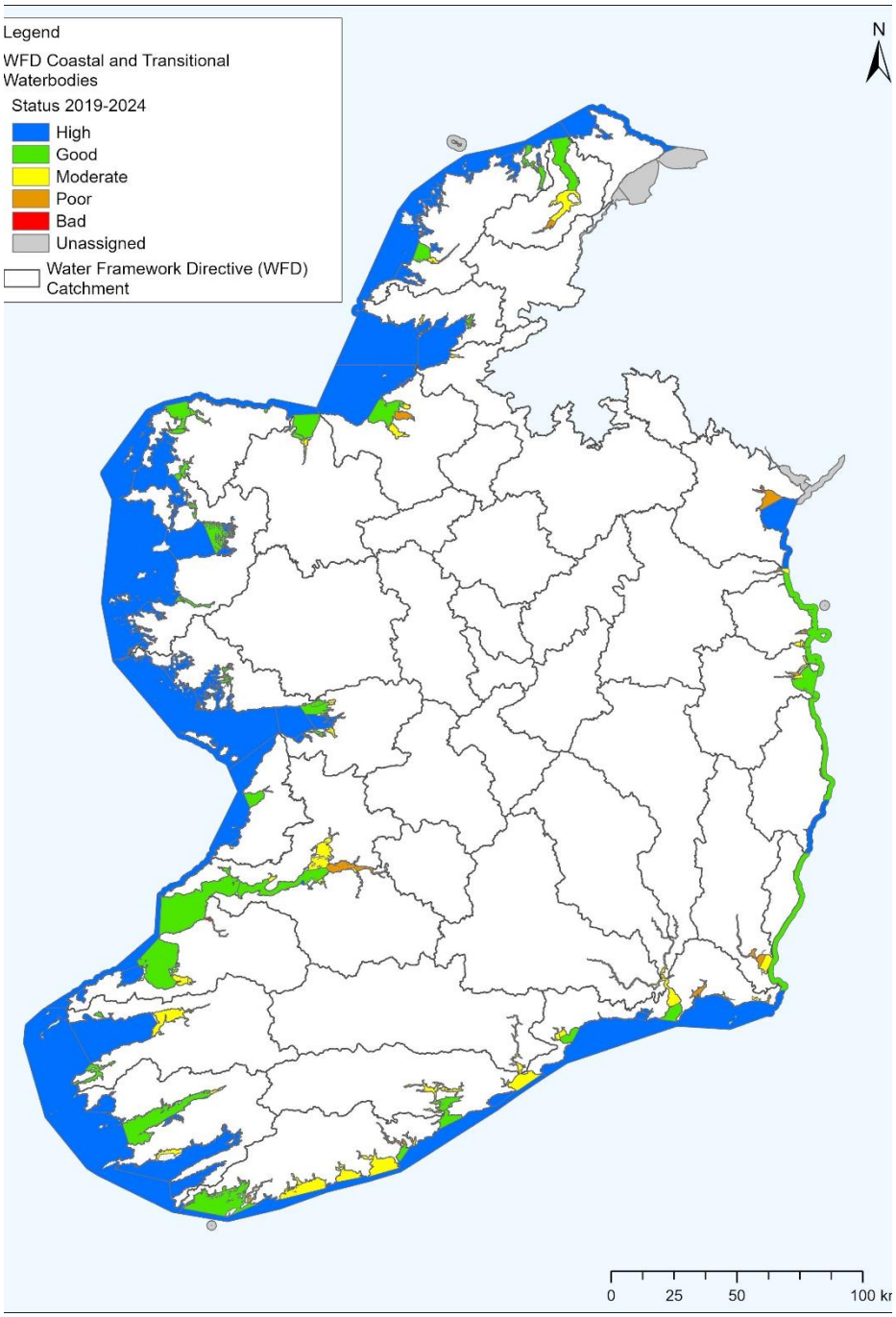

Figure 3-7 WFD Ecological Status of Transitional and Coastal Water bodies 2019 - 2024[8]

Table 3-4 presents the number of coastal and transitional water bodies within each ecological status category.

Table 3-4 WFD Ecological status Cycle 3 2019 – 2024 of transitional and coastal water bodies in Ireland

WFD catchment	Number of water bodies	WFD ecological status				
		High	Good	Moderate	Poor	Bad
Ballyteigue-Bannow	0	0	0	0	0	0
Bandon-Ilen	2	0	2	0	0	0
Lough Neagh & Lower Bann	0	0	0	0	0	0
Barrow	8	0	6	0	2	0
Blacksod-Broadhaven	3	0	3	0	0	0
Blackwater (Munster)	7	0	6	0	1	0
Boyne	9	0	8	0	1	0
Colligan-Mahon	2	0	1	0	1	0
Corrib	6	0	4	0	2	0
Donagh-Moville	1	0	1	0	0	0
Donegal Bay North	4	0	4	0	0	0
Dunmanus-Bantry-Kenmare	3	0	3	0	0	0
Erne	17	0	16	0	1	0
Erriff-Clew Bay	4	0	3	0	1	0
Foyle	4	0	3	0	1	0
Galway Bay North	3	0	3	0	0	0
Galway Bay South East	8	0	7	0	1	0
Gweebarra-Sheephaven	1	0	1	0	0	0
Laune-Maine-Dingle Bay	4	0	3	0	1	0
Lee, Cork Harbour and Youghal Bay	13	0	12	0	1	0
Liffey and Dublin Bay	10	0	8	0	2	0
Lough Swilly	0	0	0	0	0	0
Lower Shannon	11	0	8	0	3	0
Mal Bay	1	0	1	0	0	0
Moy & Killala Bay	6	0	6	0	0	0
Nanny-Delvin	6	0	5	0	1	0
Newry, Fane, Glyde and Dee	10	0	10	0	0	0
Nore	9	0	8	0	1	0
Ovoca-Vartry	7	0	4	0	3	0
Owenavorragh	1	0	1	0	0	0
Shannon Estuary North	3	0	2	0	1	0
Shannon Estuary South	16	0	15	0	1	0
Slaney & Wexford Harbour	3	0	1	0	2	0
Sligo Bay	8	0	8	0	0	0
Suir	5	0	3	0	2	0

WFD catchment	Number of water bodies	WFD ecological status				
		High	Good	Moderate	Poor	Bad
Tralee Bay-Feale	3	0	3	0	0	0
Upper Shannon	12	0	11	0	1	0

Marine Environment

The temperate waters that surround Ireland are highly productive and provide a rich mosaic of marine life. The assessment of the wider marine areas is covered under the EU Marine Strategy Framework Directive.

Ireland's location in the Atlantic Ocean on the edge of the European continent has meant that its marine environment has remained relatively unpolluted. In recent years, however, the level of environmental stress, from both internal and external sources, has increased. Coastal development, particularly during the 1990s, has resulted in an increase in the range and magnitude of pressures that have the potential to impact negatively on the quality of Ireland's tidal waters.

Nutrient Sensitive Areas

Nutrient Sensitive Areas (NSAs) in Ireland are surface water bodies identified as vulnerable to nutrient enrichment, particularly from nitrogen (N) and phosphorus (P), which can lead to eutrophication and ecological degradation. These areas are designated under the EU Urban Wastewater Treatment Directive (91/271/EEC) and incorporated into Ireland's Register of Protected Areas under the Water Framework Directive (WFD). Nutrient management is further supported through implementation of the Nitrates Directive across the whole national territory.

EPA monitoring data indicate that nutrient pollution remains one of the most significant pressures on water quality, with agriculture identified as the dominant source. While recent monitoring shows some reduction in nitrogen concentrations, levels remain elevated in certain regions, particularly the southeast, and phosphorus concentrations persist at elevated levels in localised areas, often associated with soil and drainage characteristics[10]. Figure 3-8 shows nutrient sensitive areas in Ireland.

Nutrient sensitive conditions occur across multiple water body types and are spatially variable but are typically associated with intensively managed catchments and areas with high nutrient inputs. These areas are a key focus of the EPA's River Basin Management Plans, where they inform targeted measures including enhanced wastewater treatment requirements and agricultural mitigation actions.

[10] EPA. 2025. EPA publishes full monitoring network results of nitrogen and phosphorus levels in Irish waters for 2024. Accessed: June 2026. Available from: https://www.epa.ie/news-releases/news-releases-2025/epa-publishes-full-monitoring-network-results-of-nitrogen-and-phosphorus-levels-in-irish-waters-for-2024.php

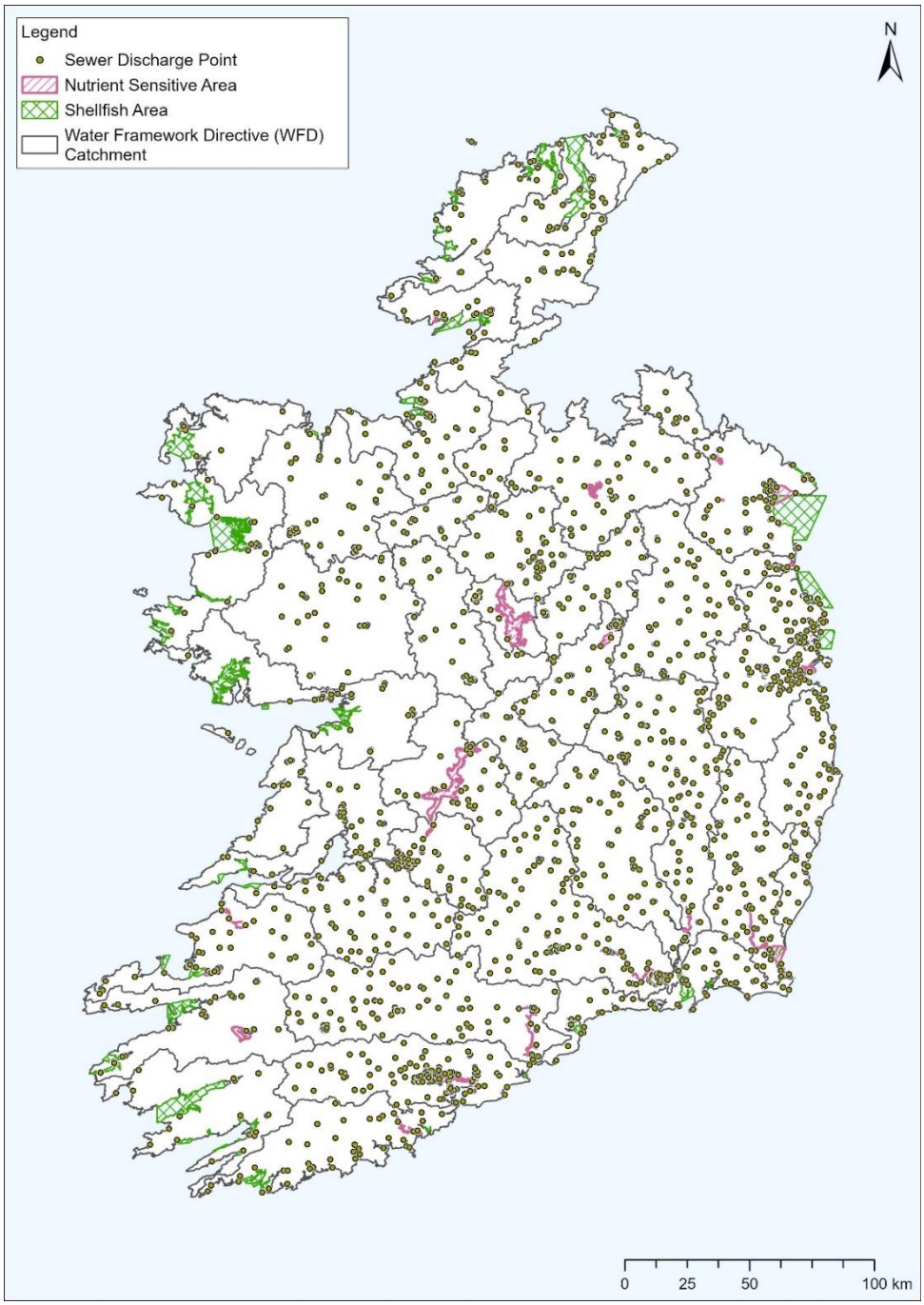

Figure 3-8 Nutrient sensitive areas, shellfish waters and discharge points in Ireland[8]

Sources of Pollution

The EPA identifies that river pollution in Ireland is primarily driven by human activities, with a number of key sectors contributing to pressures on water quality. The most significant of these is agriculture, which represents the dominant pressure on rivers nationwide. Agricultural activities contribute to the loss of nutrients, particularly nitrogen and phosphorus, through runoff from fertilisers and organic wastes such as slurry. These nutrients enter watercourses and can lead to eutrophication, resulting in excessive growth of algae and aquatic vegetation, reduced dissolved oxygen levels, and degraded ecological conditions.

Urban wastewater discharges are also a major source of pollution. Effluent from wastewater treatment plants, sewer overflows, and inadequately treated domestic wastewater can introduce nutrients, organic matter, and microbial contaminants into rivers. While improvements have been made in wastewater treatment infrastructure, the EPA continues to identify urban wastewater as a significant pressure affecting many water bodies. Figure 3-8 illustrates the outfall points associated with Uisce Éireann wastewater discharges.

Diffuse pollution from urban areas and rural land is another important contributor. Rainfall events can mobilise pollutants such as sediments, hydrocarbons, nutrients, and other contaminants from roads, built environments, and agricultural land into nearby rivers. This type of pollution is often more difficult to control due to its dispersed nature and dependence on weather conditions.

In addition to chemical pressures, physical alterations to river systems (hydromorphological pressures) play a key role in degrading water quality. Activities such as land drainage, river channel modification, forestry operations, and urban development can alter natural river flows, damage habitats, and reduce ecological resilience. These changes can compound the impacts of chemical pollution and hinder recovery of affected water bodies.

Forestry activities can also contribute to pollution where poorly managed, particularly through increased sedimentation and associated nutrient losses to watercourses. Similarly, smaller but locally significant pressures can arise from septic tanks, industry, and contaminated land.

Finally, rivers are impacted by a range of hazardous substances, including pesticides, metals (such as mercury), and emerging contaminants such as PFAS. These pollutants may arise from agricultural practices, industrial discharges, or legacy sources, and can have toxic effects on aquatic ecosystems even at low concentrations.

Overall, the EPA highlights that river water quality in Ireland is under sustained pressure from a combination of diffuse and point sources, with nutrient enrichment, wastewater discharges, and physical habitat degradation being the most significant factors. Addressing these pressures requires coordinated action across multiple sectors to reduce pollutant inputs and restore ecological function.

Table 3-5 presents significant pressures on water bodies in Ireland.

Table 3-5 Significant pressures on a number of water bodies in Ireland.

Pressure category	Water body type			
	Rivers	Coastal and transitional	Lakes	Groundwater
Agriculture	843	47	85	48
Hydromorphology	428	5	15	0
Forestry	192	0	14	10
Urban Wastewater	161	26	10	0
Unknown*	151	10	26	25
Urban Run-off	177	14	3	0
Domestic Wastewater	117	9	9	13
Other **	69	2	50	15
Peat	103	0	2	1
Industry	61	0	1	17
Mines and Quarries	38	0	0	2

* - Unknown is where there is a known impact but further investigation is required to identify the significant pressure.

** - Includes a range of other smaller pressures such as aquaculture, historically polluted sites and invasive species.

3.8.2 Flood Risk

Flooding has increasingly become a significant concern in Ireland over recent years. The occurrence of flood events is rising, and this trend is expected to continue as a result of climate change. More frequent flooding places additional strain on drainage systems and sewer networks and can negatively impact surface water quality. This can happen through disruptions to wastewater treatment plant operations and the discharge of

untreated stormwater during flood conditions. Flooding also contributes to the transport of nutrient-rich sediments from agricultural and forestry lands into water bodies, further affecting water quality. Figure 3-9 illustrates areas of medium and high flood risk for both surface water and groundwater.

Under the Floods Directive (2007/60/EC), EU member states are required to prepare Flood Risk Management Plans for locations identified as being at significant risk, both now and in the future. In Ireland, this Directive was implemented through the European Union (Assessment and Management of Flood Risks) Regulations 2010, which outline the responsibilities of the Office of Public Works (OPW).

The OPW has primarily delivered on these requirements through the Catchment-based Flood Risk Assessment and Management (CFRAM) Programme (OPW, 2018). This programme has led to the development of 29 draft Flood Risk Management Plans. Around 300 Areas for Further Assessment have been identified, each with tailored measures aimed at reducing or managing flood risk within specific catchments.

Flood mapping for these Areas for Further Assessment is available on the CFRAM website (OPW, 2018). Climate projections indicate that both river and coastal flooding are likely to become more frequent across Ireland. As all major cities are located along coastlines influenced by tides, rising sea levels pose considerable economic, social, and environmental risks.

These risks extend to water and wastewater infrastructure, which may be affected directly by flooding or indirectly through disruptions to power supply and transport access. Additionally, communities and businesses may experience significant impacts where residential and commercial areas are inundated.

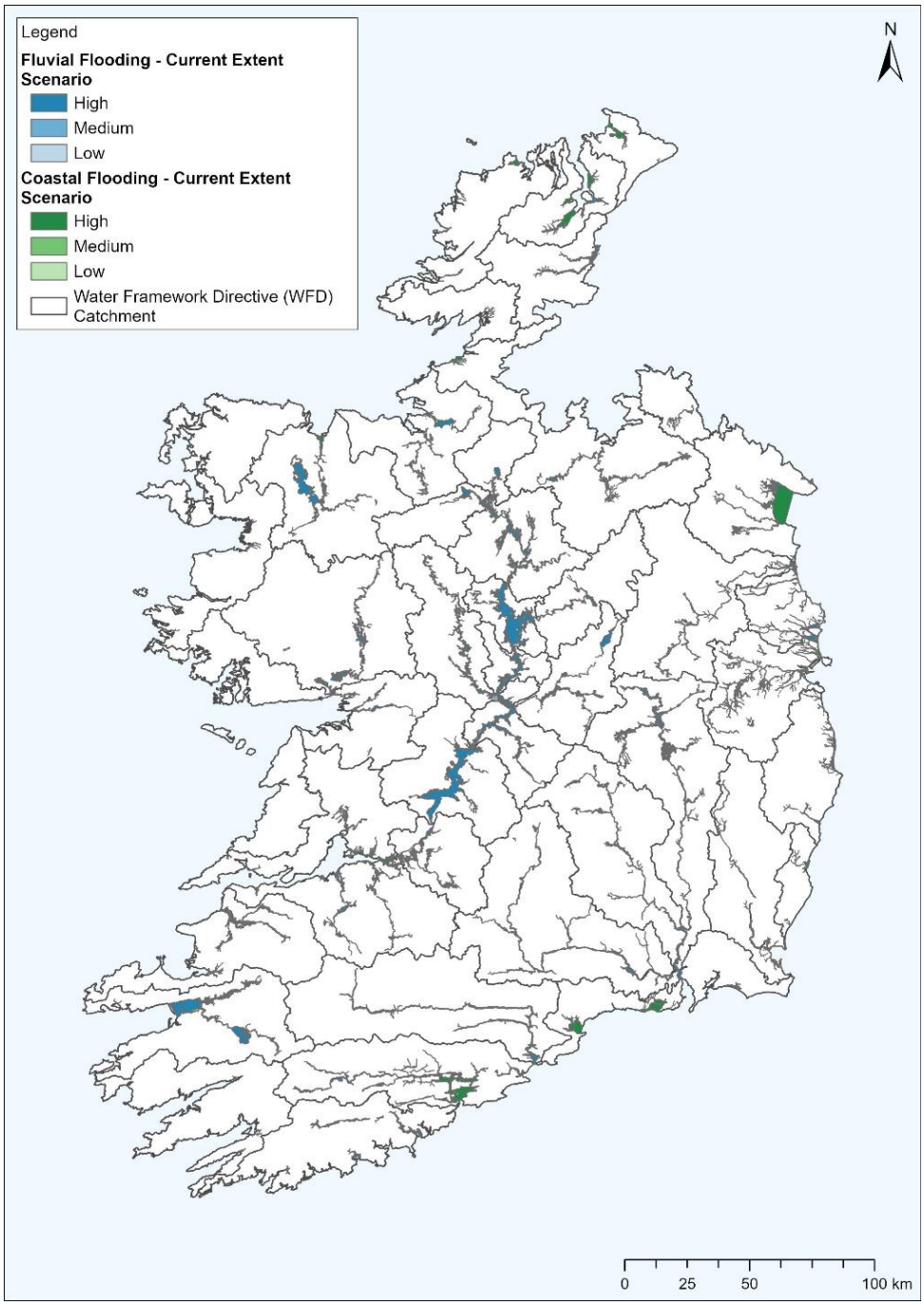

Figure 3-9 Fluvial and Coastal Flood Risk in Ireland[11,12]

3.8.3 Drought Risk

During the drought conditions experienced in the summer of 2018, all of Uisce Éireann's groundwater supplies were closely monitored due to declining groundwater levels. A number of these supplies were impacted, either in terms of water quality or overall availability. In response to similar dry periods, particularly in 2018, 2020, 2022 and 2025, water conservation orders were introduced in certain supply areas, resulting in restrictions for customers.

Drought conditions can lead to reduced river flows and elevated water temperatures, which in turn lower dissolved oxygen levels in water bodies. These environmental changes contributed to widespread fish kills

[11] OPW 2025. Coastal Flood Risk. Accessed May 2026. Available from: https://data.gov.ie/dataset/community-scale-coastal-flood-extents-current-scenario

[12] OPW 2025. Fluvial Flood Risk. Accessed May 2026. Available from: https://data.gov.ie/dataset/community-scale-river-flood-extents-current-scenario

across Ireland during the summer of 2018. The impacts of this event may also have made fish populations more susceptible to both sudden pollution incidents and ongoing background pollution. Water bodies that are in good ecological condition tend to be more resilient and therefore less affected by such drought-related pressures.

In addition, the excessive abstraction of water can further damage ecological health by lowering river flows and lake levels. To prevent harm during prolonged dry periods, careful management of vulnerable water abstractions is required. However, outside of drought conditions, water abstraction in Ireland generally does not pose significant environmental pressure on surface water or groundwater resources.

3.8.4 Future Trends

WFD environmental objectives

Water quality remains under significant strain due to a range of human pressures. This issue is especially pronounced in estuarine environments, which are currently in the poorest condition overall and have experienced the greatest relative deterioration since the last review.

The EPA's Water Quality Report (2025) notes that objective of achieving good status for all water bodies by 2027 will not be met. Although numerous initiatives are underway to enhance water quality, gains in certain areas and sectors are being offset by declines elsewhere. To deliver meaningful improvements at a national level, both the extent and speed of action must increase. Ireland must take decisive steps, including:

- Ensuring coordinated delivery and monitoring of River Basin Management Plan measures through Sectoral and European site Plans;
- Strengthening data sharing and integration among responsible authorities, water quality programmes, and state agencies;
- Implementing targeted interventions tailored to the specific pressures affecting individual water bodies;
- Evaluating, communicating, and sharing the effectiveness of measures;
- Ensuring the Nitrates Action Programme achieves reductions in nutrient losses to water;
- Increasing and sustaining investment by Uisce Éireann; and
- Establishing, as a priority, a regulatory framework to protect waters from hydromorphological impacts.

Contaminants of Emerging Concern

Contaminants of emerging concern (CECs) refer to chemicals—either man-made or natural—or microorganisms that are not routinely monitored in the environment but may still pose risks to ecosystems and human health.

The Water Framework Directive (WFD) requires regular updates to its list of priority substances (set out in Annex X) under Article 16(4). This list was revised in 2013, when 12 additional substances were included through Directive 2013/39/EU. That same directive introduced a "watch list" (Article 8b), which highlights substances that need EU-wide monitoring to inform future decision-making. For instance, compounds such as diclofenac, 17β-estradiol, and 17α-ethinylestradiol were added to the watch list in 2013, followed by 10 more in 2015. Monitoring data collected for these substances plays a key role in future reviews of the priority list. The findings from this research contribute valuable data for both Ireland and the wider EU, helping to inform updates to the directive and strengthen evidence-based policy development.

EPA's project (Research 455: Innovative Monitoring to Priorities Contaminants of Emerging Concern for Ireland (IMPACT)) examined how these substances appear, behave, and affect Irish water bodies. Screening was carried out for a wide range of substances, including pesticides, pharmaceuticals, and personal care

products. The research helps identify which contaminants persist through treatment processes and supports the creation of a priority list based on evidence[13].

Agricultural policy and water protection

A significant proportion of water pollution arises from agricultural land. Teagasc (Agriculture and Food Development Authority) identify a risk-based approach to identifying areas of diffuse pollution on farmland with the highest risk of affecting a water body. The approach can support the work of Local Authority Waters Programme (LAWPRO) and Agricultural Sustainability Support and Advisory Programme (ASSAP) which addressed the second cycle PAAs to focus land management measures where they would be most effective. Recommendations[14] were made to extend ASSAP as part of supporting the third cycle RBMP. Many of the areas of action proposed in the Water Action Plan 2024 (RBMP for Ireland) mentioned above aimed to address pollution from agricultural land.

European Innovation Partnership Scheme funds projects that allow farmers, scientists and other experts to collaborate together to develop new practices that are environmentally friendly and economically sustainable. Projects can get up to 100% funding. The total funding for the scheme across all projects is €59 million under the Rural Development Programme 2014–2020. The scheme is co-funded with the European Union. One such scheme is the Farming For Water [15].

The National Action Programme under the Nitrates Directive will provide an opportunity to evaluate the need to amend existing farm management measures under the programme. Measures will be required to address the issues identified during farm inspections such as inadequate management of animal manures, contamination of waters by run-off from farmyards and structural defects in manure storage facilities.

Local community initiatives

To deliver significant improvements in the condition of waters it will be important to generate and harness bottom-up community involvement and ownership of the environmental issues, for example through the formation of River Trusts. Funds available from the Community Water Fund and from national and European research projects (LEADER and LIFE projects) are providing opportunities for local communities and farmers to get involved in local water quality catchment-based projects. Local community initiatives, with the support of the LAWPRO, have the potential to tackle threats to water protection and restoration more effectively by examining the risks and developing tailored solutions at a local level.

Citizen science also provides an opportunity for local communities to get involved in science projects to inform on the quality of the aquatic environment. The Dragonfly Ireland 2019-2024 project is seeking volunteers to record sightings of dragonflies and damselflies while the Explore Your Shore project is looking for volunteers to identify the different types of animals and plants found in seashore rockpools.

Urban wastewater

Untreated or inadequately treated wastewater can pollute water bodies by reducing oxygen levels and increasing nutrient concentrations, which may cause eutrophication. In Ireland, excessive nitrogen and phosphorus releases are the primary contributors to poor water quality[16].

[13] EPA. 2024. Research 455: Innovative Monitoring to Priorities Contaminants of Emerging Concern for Ireland (IMPACT). Accessed: June 2026. Available from: https://www.epa.ie/publications/research/water/research-455-innovative-monitoring-to-priorities-contaminants-of-emerging-concern-for-ireland-impact.php

[14] Teagasc. 2021. External Expert Assessment of the Agricultural Sustainability Support and Advisory Programme (ASSAP) Report of the Independent Review Panel 12 October 2021. Accessed: June 2026. Available from: https://teagasc.ie/wp-content/uploads/2025/05/ASSAP-Expert-Review-Final-Report-pdf-22-Nov-2021.pdf

[15] Local Authority Waters Programme (LAWPRO).2023. Farming for Water European Innovation Partnership. Accessed: June 2026. Available from: Farming for Water European Innovation Partnership - Farming for Water EIP

[16] EPA. 2025. Urban Wastewater Treatment in 2024. Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/waste-water/urban-wastewater-treatment-in-2024.php

Urban wastewater can be a significant pressure on water quality where wastewater treatment plants are not performing adequately or where environmental standards are not being met. The current River Basin Management Plan (2022–2027) identifies urban wastewater as a significant pressure in 197 water bodies across Ireland, including approximately 63 associated with small wastewater treatment plants. In many cases, wastewater is only one of several pressures affecting water quality, alongside activities such as agriculture, forestry, hydromorphological alterations and urban runoff. Addressing these challenges therefore requires a catchment-based approach that considers all sources of pressure on the receiving water environment. Uisce Éireann is required to assess the condition of water bodies receiving wastewater discharges, identify the factors contributing to environmental pressures, and determine the actions needed to protect and improve water quality. Compliance with discharge authorisations and environmental standards is essential to safeguarding rivers, lakes, estuaries and coastal waters. Where urban wastewater is identified as the sole significant pressure on a water body, addressing the wastewater issue and achieving compliance with discharge authorisations should support the achievement of that water body's environmental objectives. However, where multiple pressures exist, improvements in water quality are likely to depend on coordinated action across a range of sectors and activities. Upgrading Ireland’s wastewater treatment infrastructure to meet required standards will demand significant and long-term investment. Given the scale of the small wastewater treatment plant network, the complexity of upgrade projects, and the investment required, improvements will need to be prioritised over time. It is noted by the EPA that Uisce Éireann needs to develop a structured programme to deliver the remaining infrastructure, prioritising the areas where the need is most urgent. Any improvements required to address the key issues identified in this report should be treated as high priority.

In 2024, more than 500 environmental incidents were linked to equipment failures and shortcomings in the operation and maintenance of treatment plants. In many instances, these incidents resulted in non-compliance with the effluent quality limits set out in EPA licences (see Chapter 2).

The EPA states that Uisce Éireann must place greater emphasis on improving the performance of all treatment systems and reducing the occurrence of such incidents. This should involve providing appropriate training and establishing clear operational procedures for all staff involved in running, managing, and maintaining treatment plants, as well as responding to environmental incidents; implementing well-resourced and effective preventative maintenance and repair programmes to ensure assets remain in good working order, improve system resilience, and reduce the risk of breakdowns.

Any discharges that are inadequately treated due to operational or maintenance failures must be dealt with promptly to limit environmental harm and avoid similar issues happening again.

Marine Planning Reform

As part of implementing the EU Marine Spatial Planning Directive (2014/89/EU), Ireland’s National Marine Planning Framework (NMPF) (2021) has been produced to provide guidance for activities and developments affecting the marine environment up to 2040. The Maritime Area Planning Act 2021 (as amended), was enacted in 2021 and the Maritime Area Regulatory Authority (MARA) was established in July 2023 - together these introduce a new legislative regime around consent for development and activities in the marine area. The NMPF provides policies for sustainable planning and management of marine resources, balancing ecological, economic and social objectives in relation to aspects such as the environment, biodiversity, commercial fisheries and renewable energy. As part of this, the NMPF includes specific objectives and planning policies related to water quality and to wastewater treatment and disposal.

Impacts of climate change on the water environment

Climate change is already influencing, and will continue to significantly affect, the water environment in Ireland. The primary impacts relate to changes in precipitation patterns, hydrological regimes, water quality, and coastal processes.

Projected climate trends indicate increased seasonality in rainfall, with wetter winters and drier summers. Winter rainfall is expected to increase, while summer rainfall is projected to decrease, accompanied by more frequent and intense extreme rainfall events. These changes will result in a more variable and intensified hydrological cycle[17].

As a consequence, river flows are projected to increase in winter and decrease in summer, leading to a higher risk of flooding during the wetter months and an increased likelihood of drought conditions during the summer period. Flood risk is expected to increase in both frequency and magnitude due to heavier precipitation and higher winter flows, while summer droughts may become more frequent and severe, particularly in eastern and midland regions.

Changes in flow regimes and extreme weather events also have important implications for water quality. Increased rainfall and flooding can mobilise sediments, nutrients, and pollutants from agricultural and urban land, resulting in deteriorations in river, lake, and coastal water quality. In contrast, lower flows during dry periods reduce dilution capacity, potentially increasing pollutant concentrations. Rising water temperatures may further impact ecological status through reduced dissolved oxygen levels, increased stratification in lakes, and a heightened risk of algal blooms[18].

Climate change is also expected to place additional pressure on water resources and supply. Ireland relies heavily on surface waters for public water supply, making it particularly sensitive to variability in rainfall and river flows. Increased frequency of droughts and reduced summer flows could lead to water shortages and increased stress on supply infrastructure.

In coastal areas, sea-level rise and increased storm intensity are projected to contribute to more frequent coastal flooding, erosion, and saline intrusion. Sea levels around Ireland are rising and could increase by up to approximately 1 metre by 2100, significantly increasing risks to coastal communities, infrastructure, and estuarine environments[19].

Overall, climate change is expected to exacerbate existing pressures on Ireland's water environment, including those arising from agriculture, wastewater discharges, and land use. These combined effects may reduce the resilience of aquatic ecosystems and make it more challenging to achieve and maintain Good Ecological Status under the Water Framework Directive.

3.8.5 Key Considerations for the Small WWTP National Plan and the SEA

This section summarises the key challenges and opportunities in relation to Water Environment:

Challenges:

- Additional pressures on the aquatic environment related to climate change and increased frequency of drought periods;
- Water pollution from wastewater discharge, storm water overflows, and sewer network flooding affecting receiving water including rivers, lakes, transitional and coastal water body ecosystems and contributing to effects on aquatic ecology, bathing waters, recreation and fisheries;
- Stormwater management: separating the wastewater and stormwater network, reducing the number of combined sewer overflows and potential to increase the use of Sustainable Urban Drainage Schemes (SUDS) including Nature based solutions (NbS), in new development;

[17] Climate Ireland. 2026. Precipitation. Accessed: June 2026. Available from: https://www.climateireland.ie/impact-on-ireland/future-climate-of-ireland/precipitation/
[18] The Water Forum. N.d. Climate Change Impacts on Ireland's Water Resources. Accessed: June 2026. Available from: https://thewaterforum.ie/app/uploads/2023/09/Policy-Brief-Climate-Change-Impacts-Summary.pdf
[19] Marine Institute. 2023. Irish Ocean and Climate Status Report. Accessed: June 2026. Available from: https://www.marine.ie/site-area/areas-activity/oceanography/irish-ocean-and-climate-status-report

- Wastewater management: upgrading and maintaining wastewater treatment plants to address existing and also new contaminants and to meet existing and future standards and protect the environment;
- Water pollution including from diffuse sources such as agriculture forestry and urban runoff affecting raw water quality affecting drinking water treatment requirements, health and aquatic ecology and this can affect the background water quality for wastewater discharges with implications for the capacity of receiving waters;and
- Challenges from climate change increasing pressure on the natural environment and increased risks for infrastructure – importance of supporting environmental resilience, especially in terms of receiving water bodies affected by wastewater discharges and developing infrastructure and operational resilience of wastewater services.

Opportunities:

- Understanding the pressures and effects on the water environment better and improving data, monitoring, knowledge sharing and making use of new digital and mapping technologies: and
- Opportunities for collaboration with a range of stakeholders particularly in relation to addressing catchment wide issues and developing new approaches including considering ecosystem services and valuing the wider benefits from nature-based solutions and catchment management.

3.9 Population, Economy, Tourism and Recreation, and Human Health

3.9.1 Population Baseline Condition

Population trends provide an important contextual baseline for the Strategic Environmental Assessment (SEA) of the Plan, as changes in population distribution and settlement patterns directly influence the demand for wastewater treatment infrastructure and services.

According to Census 2022 data, Ireland continues to experience overall population growth, with growth occurring not only in major urban centres but also across towns, villages and dispersed rural settlements. A significant proportion of these smaller settlements are served, wholly or partially, by small wastewater treatment plants, often discharging to sensitive freshwater, transitional or coastal receiving environments.

Population change in these areas has the potential to:

- Increase hydraulic and pollutant loading on small wastewater treatment plants;
- Place pressure on existing treatment capacity and performance; and
- Influence the need for upgrades, expansion or alternative solutions to ensure compliance with environmental objectives.

For the purposes of the Plan SEA, baseline population conditions are informed by:

- Census 2022 population data at national, regional and settlement scale;
- Population and household projections prepared by the Central Statistics Office; and
- National, regional and local spatial planning policy, including Regional Spatial and Economic Strategies and relevant development plans.

Updated population projections, based on Census 2022 data and current policy frameworks, are being prepared and will be presented in the SEA Environmental Report. These projections will inform the

assessment of future demands on small wastewater treatment infrastructure and support the identification of strategic measures to ensure environmental protection is maintained in the context of population growth.

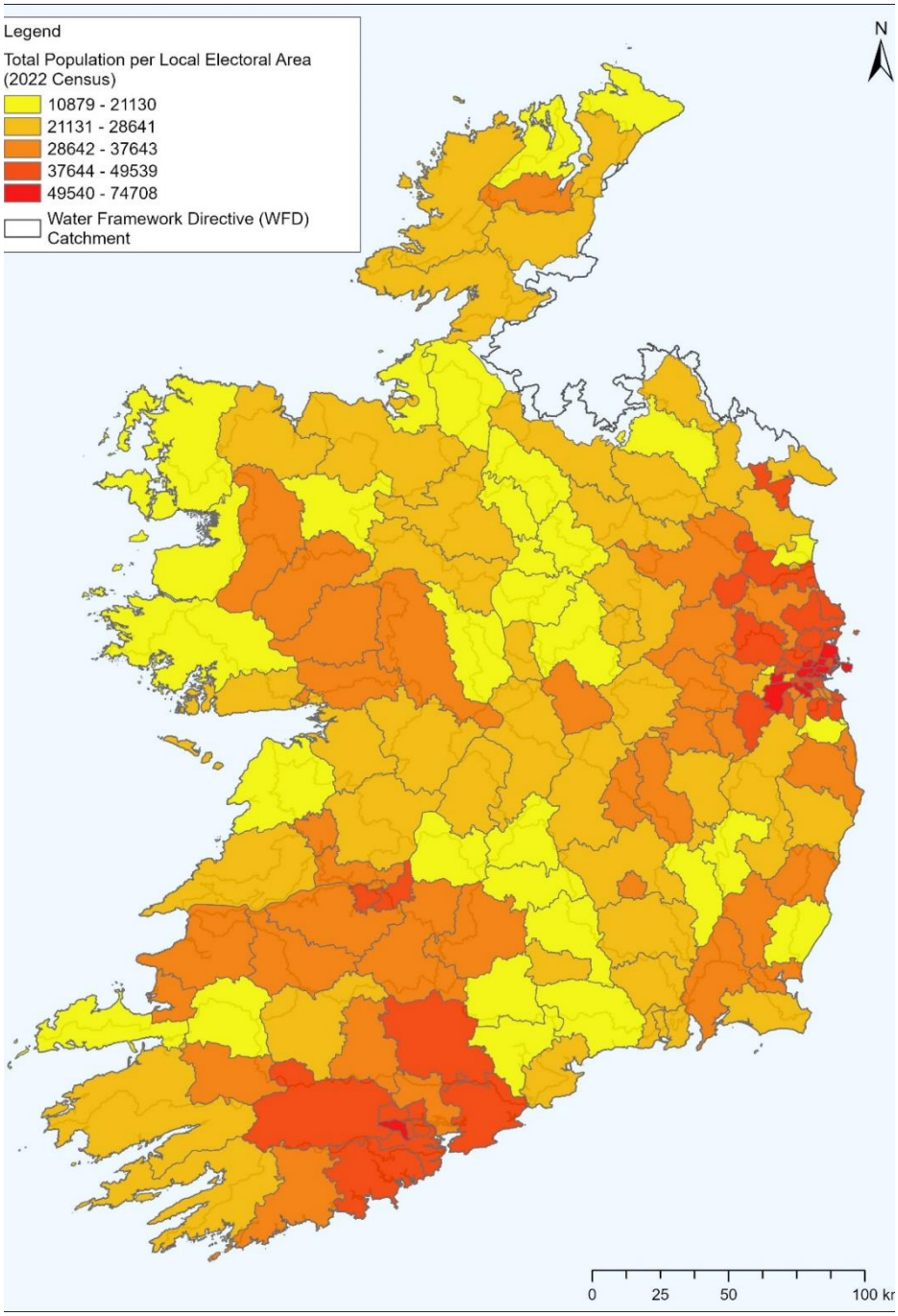

Figure 3-10 Total population per local electoral area[20,21]

Table 3-6 presents 2022 census population and future growth predictions in Ireland as a whole and per county.

[20] CSO. 2023. Population by Local Electoral Area (2022 Census). Accessed: June 2026. Available from: https://data.cso.ie/ (Profile 1 - Population Distribution and Movement F1016 - Population)
[21] Tailte Éireann. 2024. Local Electoral Area. Accessed: June 2026. Available from: https://data-osi.opendata.arcgis.com/datasets/osi::local-electoral-areas-national-statutory-boundaries-ungeneralised-2024/about

Table 3-6 Current and projected populations

Area	2022 Population[22]	2025 Population Estimates[23]	2022-2025 Estimate Change (%)	2040 Population Projection	2022-2040 Projection Change (%)[24]
Republic of Ireland	5,149,139	5,458,600	6.0	5,656,300	9.8
Carlow	61,968	65,600	5.9	72,100	16.4
Cavan	81,704	84,400	3.3	91,000	11.4
Clare	127,938	136,400	6.6	135,000	5.5
Cork	584,156	612,900	4.9	649,800	11.2
Donegal	167,084	180,400	8.0	181,100	8.4
Dublin	1,458,154	1,568,000	7.5	1,608,200	10.3
Galway	277,737	292,700	5.4	294,100	5.9
Kerry	156,458	170,700	9.1	174,700	11.7
Kildare	247,774	253,600	2.4	283,400	14.4
Kilkenny	104,160	113,100	8.6	120,800	16.0
Laois	91,877	95,900	4.4	108,300	17.9
Leitrim	35,199	36,600	4.0	37,400	6.3
Limerick	209,536	220,100	5.0	225,100	7.4
Longford	46,751	46,400	-0.8	50,600	8.2
Louth	139,703	144,600	3.5	152,300	9.0
Mayo	137,970	151,800	10.0	135,100	-2.1
Meath	220,826	225,100	1.9	241,000	9.1
Monaghan	65,288	68,400	4.8	70,100	7.4
Offaly	83,150	89,500	7.6	97,100	16.8
Roscommon	70,259	75,200	7.0	75,800	7.9
Sligo	70,198	72,800	3.7	77,300	10.1
Tipperary	167,895	182,900	8.9	182,000	8.4
Waterford	127,363	134,100	5.3	133,200	4.6
Westmeath	96,221	100,700	4.7	107,500	11.7
Wexford	163,919	173,600	5.9	178,000	8.6
Wicklow	155,851	163,300	4.8	175,300	12.5

[22] CSO. 2023. Census of Population 2022 - Summary Results. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-cpsr/censusofpopulation2022-summaryresults/

[23] CSO. 2025. Population estimates 2025. Accessed: May 2026. Available from: https://ws.cso.ie/public/api.restful/PxStat.Data.Cube_API.ReadDataset/PEA01/XLSX/2007/en

[24] DHLGH. 2021. ESRI Population Projections by Local Authority. Accessed May 2026. Available from: https://data.gov.ie/dataset/esri-population-projections-by-local-authority?package_type=dataset&msclkid=2c415e2ed13411ecbe325aeb6c6a4161

3.9.2 Economy and Employment Baseline Condition

Economic and employment conditions form part of the socio-economic baseline for the Strategic Environmental Assessment (SEA) of the Plan, as they influence settlement patterns, infrastructure demand and the capacity for investment in environmental services.

The Nomenclature of Territorial Units for Statistics (NUTS) is a classification system developed by Eurostat to provide a consistent framework for regional statistical analysis. For these purposes, Ireland is divided into eight NUTS 3 regions. Recent national and regional socio-economic indicators show that unemployment rates across most regions have generally remained at or below the national average, while household disposable income levels are broadly comparable with the State average, although variation exists between regions.

These trends indicate a relatively stable economic context, supporting continued residential and economic development across towns, villages and rural areas. In many cases, such areas are reliant on small wastewater treatment plants to support local communities and economic activity.

From a Plan perspective, economic and employment conditions are relevant insofar as they:

- Influence population growth and settlement expansion in areas served by small wastewater treatment plants;
- Affect demand for wastewater infrastructure capacity and service levels; and
- Shape the ability to fund upgrades, optimise performance and implement environmental mitigation measures.

Baseline economic and employment data have been informed by published statistics from the Central Statistics Office and Eurostat and are presented at an appropriate national and regional scale for the SEA purposes.

Ireland, unemployment rates and household disposable income estimates are presented in Table 3-7 below.

Table 3-7 Economy and employment statistics

Area	Q4 2024 unemployment rates (%)[25]	Q4 2025 unemployment rates (%)[26]	2023 household disposable income estimates per person (€)[27]	2023 Indices of Disposable Income per person (state = 100)
Republic of Ireland	4	4.4	150,246	28,370
Border	5.3	5.1	10,569	24,767
West	4	4	13,657	27,538
Mid-West	3.4	4.8	14,517	28,277
South-East	3.7	4.4	12,556	26,662
South-West	3.1	3.1	22,097	29,184
Dublin	4.6	4.7	48,631	32,393
Mid-East	3.4	4.4	20,365	25,402

[25] CSO. 2026. QLF08 Persons aged 15 years and over. Accessed May 2026. Available from: https://data.cso.ie/
[26] CSO. 2026. Labour Force Survey Quarter 4 2025. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter42025/
[27] CSO. 2025. County Incomes and Regional GDP 2022-2023. Accessed May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-cirgdp/countyincomesandregionalgdp2022-2023/disposableincomebycounty/

Area	Q4 2024 unemployment rates (%)[25]	Q4 2025 unemployment rates (%)[26]	2023 household disposable income estimates per person (€)[27]	2023 Indices of Disposable Income per person (state = 100)
Midlands	5	4.4	7,854	23,893

3.9.3 Human Health Baseline Condition

According to the Irish Health Survey 2025[28] the key findings regarding the Ireland human health conditions are:

- Among young adults (aged 15 to 24 years), females at 4.4% were three times as likely as males (1.4%) to report bad or very bad health in 2025;
- Younger respondents reported higher rates of poor general mental health. Females aged 15 to 24 years had the highest prevalence, with one in eight (12.8%) rating their mental health as bad or very bad;
- Among 15 to 24 year olds in 2025, 7.7% of males received a diagnosis of autism compared with 4.5% of females;
- In 2025, the highest rate of obesity was among those aged 55 to 64 years with 30.6% of females and 29.3% of males in this age group being classified as such;
- Adults aged 55 to 64 years were the most likely to drink alcohol at least once a week at 50.1%. Young adults aged 15 to 24 years were the least likely to drink alcohol weekly at 24.1%;
- Males were more likely to be daily smokers of tobacco than females. Almost a quarter (24.0%) of males aged 35 to 44 years were daily smokers of tobacco in 2025, the highest rate of any age group; and
- One third (32.5%) of females aged 15 to 24 years who used social media reported it had a negative impact on their mental health compared with 24.9% of males the same age.

The survey is based on self-reported data from persons aged 15 years and over and outlines their view of their health status. Table 3-8 provides well-being indicators for the whole of Ireland and HSE Regions.

Table 3-8 National and Regional well-being indicators of persons aged 15 years and over

Well-being indicator		HSE Dublin and Midlands HR	HSE Dublin and North East HR	HSE Dublin and South East HR	HSE Midwest HR	HSE South West HR	HSE West and North West HR
Self-perceived health status	Very good or good (%)	75.6	77.4	76.4	77.6	78.2	76
	Fair (%)	17	17.9	18.6	17.7	17.2	18.4
	Bad or very bad (%)	7.3	4.8	5	4.7	4.6	5.6
Self-perceived mental health status	Very good or good (%)	74.6	74.5	76.1	73.7	76.6	77.2
	Fair (%)	19.2	19.4	19.2	19.2	17.8	16.4
	Bad or very bad (%)	6.2	6.1	4.7	7.1	5.6	6.4

[28] CSO. 2026. Irish Health Survey 2025. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-ihsmr/irishhealthsurvey-mainresults2025/

Well-being indicator		HSE Dublin and Midlands HR	HSE Dublin and North East HR	HSE Dublin and South East HR	HSE Midwest HR	HSE South West HR	HSE West and North West HR
Mental health status in previous year (depression)	Yes (%	11.1	10.6	10.1	11	8.6	11.2
	No (%)	88.9	89.4	89.9	89	91.4	88.8

3.9.4 Tourism and Recreation Baseline Condition

Tourism in Ireland is an important component of the economy. In 2024, total tourism on the island of Ireland generated almost €12 billion. In addition to the €6.9 billion generated by overseas visitors and €1.5 billion was spent by overseas visitors on fares to Irish carriers, a further €3.6 billion was generated by residents of the Republic of Ireland.[29].

There are two UNESCO (United Nations Educational, Scientific and Cultural Organisation) World Heritage Sites in Ireland and four UNESCO Sites on the Tentative List[30]. There are seven National Parks in Ireland[31] and four Fáilte Ireland's tourism programmes[32]. Table 3-9 lists these sites for Ireland. There is also the Taste the Atlantic trail which is a collaborative initiative between BIM and Fáilte Ireland to promote seafood producers and their products along the trail.

Table 3-9 World Heritage Sites, National Parks and National Tourism Programmes in Ireland

Sites, Parks and Programmes	Site name	County
UNESCO World Heritage Site	Brú na Bóinne – Archaeological Ensemble of the Bend of the Boyne	Meath
	Sceilg Mhichíl – The island of Sceilg Mhichíl	Kerry
UNESCO Tentative List	The Historic Astronomical Observatories of Ireland	Dublin
	The Passage Tomb Landscape	Sligo
	Trans-Atlantic Cable Ensemble: Valentia	Kerry
	The Royal Sites of Ireland: Cashel, Dún Ailinne, Hill of Uisneach, Rathcroghan Complex, and Tara Complex	Tipperary, Kildare, Westmeath, Roscommon, and Meath
National Parks	Páirc Náisiúnta na Mara, Ciarraí	Kerry
	Glenveagh National Park	Donegal
	Wild Nephin National Park	Mayo
	Connemara National Park	Galway
	Burren National Park	Clare
	Wicklow Mountains National Park	Wicklow

[29] Tourism Ireland. 2025. Overseas Tourism and Tourism Ireland – Key Facts 2024. Accessed: May 2026. Available from: https://www.tourismireland.com/research-and-insights/tourism-key-facts
[30] UNESCO. 2026. Ireland. Accessed: May 2026. Available from: https://whc.unesco.org/en/statesparties/ie
[31] NPWS. 2021. National Parks. Accessed: May 2026. Available from: https://www.npws.ie/national-parks
[32] Failte Ireland. n. d. The National Tourism Development Authority. Accessed: May 2026. Available from: https://www.failteireland.ie/

Sites, Parks and Programmes	Site name	County
	Killarney National Park	Kerry
Fáilte Ireland's tourism programmes	Dublin	Dublin
	Ireland's Ancient East	Cavan, Longford, Louth, Meath, Monaghan and Westmeath
	Ireland's Hidden Heartlands	Leitrim, Roscommon, Longford, Clare, Westmeath, Cavan, Tipperary, Galway, and Offaly
	The Wild Atlantic Way	Donegal, Mayo, Clare, Kerry and Cork

Bathing Waters

Bathing water quality in Ireland is managed through a coordinated approach involving the EPA, local authorities and the HSE to ensure that designated bathing locations are safe for public use during the official bathing season (1 June to 15 September). Local authorities are responsible for the monitoring, sampling, management and maintenance of identified bathing waters, as well as investigating pollution incidents and implementing corrective actions. The EPA acts as the environmental regulator, overseeing compliance with the Bathing Water Regulations, while the HSE provides advice on public health matters.

Water quality at designated bathing waters (beaches and lakes) is classified as excellent, good, sufficient or poor based on microbiological monitoring results. Sampling is undertaken prior to the bathing season and at least monthly thereafter, with many locations sampled more frequently. Classifications are based on data collected over a four-year period, ensuring a robust assessment of longer-term trends rather than short-term fluctuations. Public information on bathing water quality, along with related environmental conditions, is made available through the national portal (beaches.ie). A map and list of bathing waters is shown in Figure 3-11 and Appendix C.

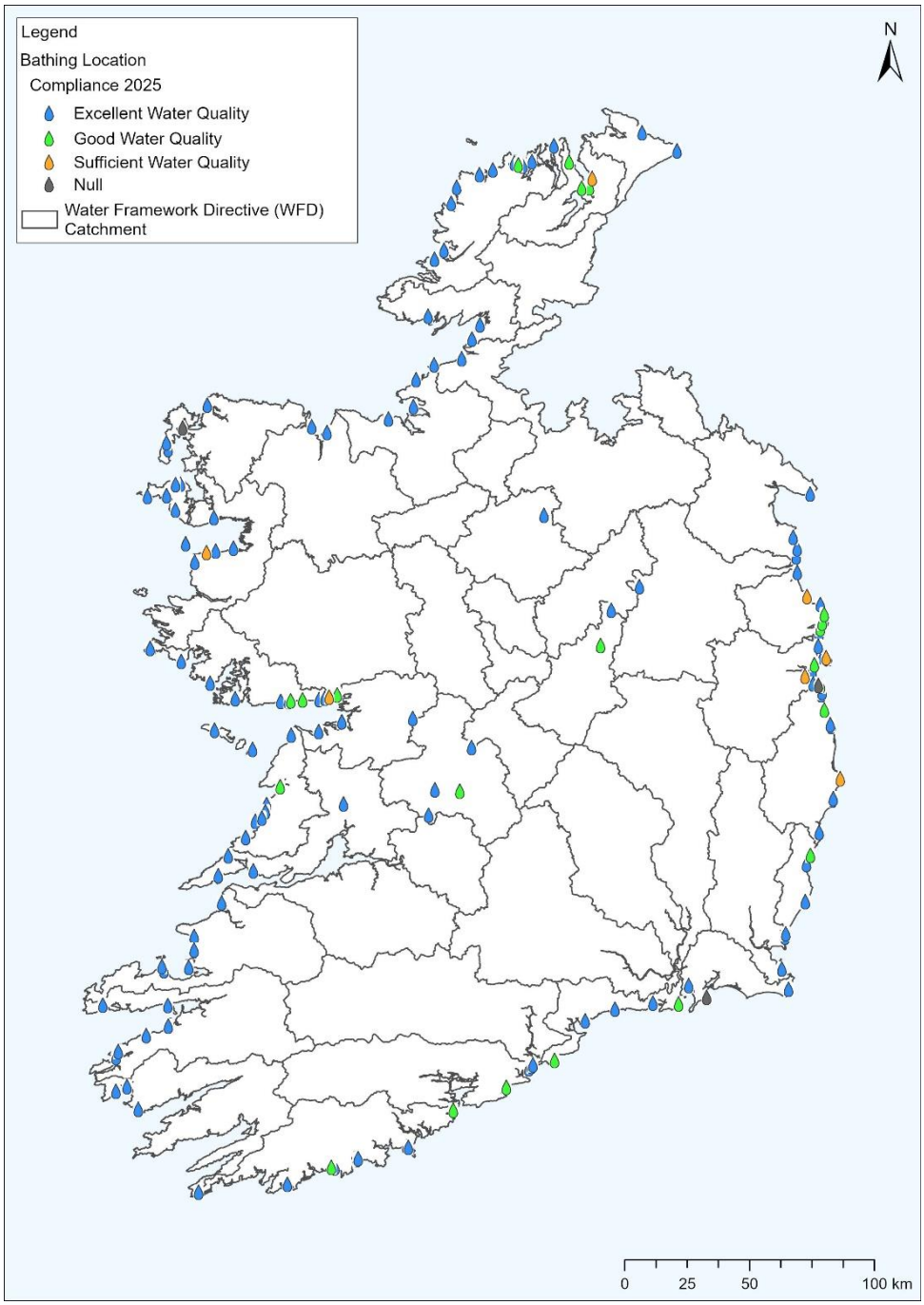

Figure 3-11 Bathing Waters Quality[8]

3.9.5 Commercial and Recreational Fishing Baseline Condition

The waters around Ireland contain some of the most productive fishing grounds and biologically sensitive areas in the EU (Marine Institute, 2022)[33]. In 2024 Irish vessels landed 264,582 tonnes into Irish Ports, worth an estimated €432 million with an additional €42.2 million landed by Irish Vessels abroad. The most valuable species landed was mackerel with a first sale value of ~€81 million, followed anglerfish (~€74 million), by *Nephrops* (~€67 million), hake (~€49 million) and blue whiting (~€48 million).

Sea-fishing is managed by the EU under the Common Fisheries Policy (including in-shore fishing). In Ireland, in-shore fishing is considered to be the fishing of non-quota fish stocks by sea-fishing boats less than 12m in

[33] Marine Institute. 2025. Fisheries Overview. Accessed: May 2026. Available from: https://www.marine.ie/site-area/areas-activity/fisheries-ecosystems/fisheries-overview

overall length within 6 nautical miles of the Irish coast. Such fishing is managed by the Minister for Agriculture, Food and the Marine.

Inland Fisheries Ireland (IFI) is the Agency that has the statutory responsibility for the protection, development, and management of inland fishing, including rivers, streams and lakes. A coastal 12-mile jurisdictional limit is also included[34].

Fresh water fishing

Fresh water fishing in Ireland is represented by mainly recreational fishing. Main type of recreational fishing in Ireland are represented by fishing for trout, pike, salmon and coarse fishing.

IFI note that brown trout thrive in most waters and as such are found well spread over most of Ireland. In many areas fisheries are specifically managed for them; however, they are also found in waters containing large stocks of pike and coarse fish. The Atlantic Salmon ("Bradán" in Gaelic) is a native Irish fish. Most rivers get a run of salmon from Spring until Autumn. Salmon can be caught in Irish waters from January through to October.

Coarse fishing in Ireland is a year-round activity. According to the IFI, fish feeding throughout the year, particularly roach and perch, can be fished all year round. Species such as tench, bream and rudd, which are most active in warmer weather, have a natural season extending from April to October. The influence of the Irish climate, as well as the habits of the fish, has to be taken into account when targeting particular species. Most Irish rivers and loughs are subject to seasonal rhythms of high and low water and can be adversely affected by floods and droughts.

Fish landing

According to CSO Fish Landings 2023[35] statistics, landings by Irish vessels in Ireland and foreign ports decreased by 8% between 2022 and 2023, landings by Irish vessels in Ireland fell by 0.01%, Killybegs had the highest quantity of fish landings in 2023 accounting for 68% of landings by Irish vessels in Ireland, and landings by foreign vessels in in Irish ports accounted for 36% of total landings in Ireland.

In 2023, the species with the highest quantity landed by Irish vessels in Ireland was Blue Whiting at 98,690 tonnes, which was 40% of Irish landings in Ireland. Table 3-10below shows the fish landings quantities in Ireland and Abroad for the period 2013-2023.

Table 3-10 Fish Landings in Ireland and Abroad 2013-2023

Tonnes (Live weight equivalent)				
Year	Irish Vessels			Foreign Vessels in Ireland
	Ireland	Foreign Ports	Total	
2013	202,926	76,943	279,869	27%
2014	220,344	74,039	294,383	25%
2015	204,194	93,938	298,132	32%
2016	207,620	68,012	275,632	25%
2017	213,501	100,305	313,806	32%
2018	184,375	132,477	316,852	42%
2019	173,922	103,386	277,308	37%
2020	188,051	136,257	324,308	42%

[34] IFI. 2026. Inland Fisheries Ireland. Accessed: May 2026. Available from: https://www.fisheriesireland.ie/#:~:text=Inland%20Fisheries%20Ireland%20is%20the,jurisdictional%20limit%20is%20also%20included.
[35]CSO. 2024. Fish Landings 2023. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-fl/fishlandings2023/

Tonnes (Live weight equivalent)				
Year	Irish Vessels			Foreign Vessels in Ireland
	Ireland	Foreign Ports	Total	
2021	181,792	116,719	298,511	39%
2022	156,943	110,259	267,202	41%
2023	156,920	88,070	244,990	36%

Shellfish Waters and Freshwater Pearl Mussels *(Margaritifera margaritifera)*

Shellfish Waters

There are 63 shellfish waters in Ireland which are protected areas designated to support the life and growth of shellfish such as oysters, mussels and clams. Shellfish Water Protected Areas come under the protected areas covered under the WFD.

Wastewater discharged in the vicinity of these waters has the potential to contaminate shellfish with bacteria and viruses if it is not properly treated. The EPA requires Uisce Éireann to assess the impacts of wastewater discharges on shellfish in designated waters and to address any adverse impacts identified. A common mitigation measure is to disinfect wastewater using ultraviolet lamps which kill or inactivate bacteria and viruses. Assessments completed to date identified three priority areas (Leenane, Carney and Drumcliff) where infrastructural upgrades are needed to protect shellfish. The EPA states that Uisce Éireann must identify the scope of improvements required and deliver these in a timely manner. Impact assessments for 18 shellfish waters are overdue. Uisce Éireann must expedite these and implement action plans to resolve any impacts identified in the assessments.

Shellfish waters in Ireland are presented in Figure 3-8 and are listed in Table 3-11.

Table 3-11 List of Shellfish Waters in Ireland[36]

Shellfish Waters Directive Areas			
Achill Sound North	Clew	Killala Bay	Rostellan South
Achill Sound South	Clifden Bay/Ardbear Bay	Killary	Sheephaven
Adrigole Harbour	Cork Great Island North Channel	Kilmakillogue	Sligo Bay
Aughinish	Cromane	Kinsale	Streamstown
Balbriggan\Skerries	Donegal Bay	League Point	Tralee Bay
Ballinakill	Drumcliff	Lough Swilly	Trawbreaga Bay
Ballymacoda Bay	Dundalk Bay	Loughras Beg	Trawenagh Bay
Ballyvaughan/ Poulnaclough Bay	Dungarvan Harbour	Maharees	Valentia Harbour

[36] DHLGH 2017. Shellfish Waters Directive Areas. Accessed: June 2026. Available from: https://data.gov.ie/dataset/shellfish-waters-directive-areas

Baltimore Harbour/Sherkin	Dunglow	Malahide	Waterford Harbour (Cheekpoint/ Arthurstown/Creadan Head)
Bannow	Dunmanus Inner	Mannin Bay	West Shannon Ballylongford
Bantry	Glengarriff	McSwynes Bay	West Shannon Carrigaholt
Bantry Bay South	Gweebara Bay	Mulroy	West Shannon Poulnasherry Bay
Blacksod Bay	Gweedore Bay	Outer Galway Bay Indreabhán	West Shannon Rinevella
Carlingford	Inver Bay	Oyster Haven	Wexford Harbour Inner
Castletownbere	Kenmare River/Sneem/ Ardgroom	Roaringwater	Wexford Harbour Outer
Clarin/Kinvara	Kilkieran	Rostellan North	

3.9.6 Future Trends

Project Ireland 2040 accommodates growth by investment in rural towns and villages. As part of Project Ireland 2040 the National Development Plan Review 2025[135] sets out the Government's investment strategy and budget for the period 2021-2030.

Infrastructure investment identified in the National Development Plan (NDP) aimed at rural Ireland is for town and village regeneration, investment in depopulated areas, improvements in regional and local transport and road infrastructure, investment in transport services, flood relief measures, and funding for tourism, culture, and heritage projects. This will allow rural Ireland to retain and attract people to the area, and also attract new enterprises, assisting in diversifying rural economies into new sectors.

As a result of the NDP projected investments, according to COSMO (Core Structural Model of the Irish Economy), from 2021 onwards will result in:

- GDP (basic prices) to increase by 1.6 per cent more by 2030 than if investment remained constant at 2021 levels;
- Employed people to increase by 3.0 per cent more by 2030 than if investment remained constant at 2021 levels; and
- Total wages are expected to increase by 3.1 per cent more by 2030 than if investment remained constant at 2021 levels.

3.9.7 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities in relation to Population, Economy, and Tourism and Recreation are:

Challenges

- Patterns for settlement and economic growth will influence the level of demand for water services and where they are located and seasonal patterns such as peaks at tourist destinations; and
- The NDP supports investments to improve water quality, water conservation and water future proofing.

Opportunities

- There are opportunities for the Plan to improve water quality and prevent or reduce pollutant load in the source waters.

3.10 Climate Change

According to the 2023 EPA's Evidence Synthesis Report 4: Land Use Review: Fluxes, Scenarios and Capacity Synthesis Report[37] – human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels with a likely range of 0.8°C to 1.2°C. At current levels of global greenhouse gas emissions, the world remains on course to exceed the Paris Agreement's temperature thresholds of either 1.5°C or 2°C above pre-industrial levels.

Climate change not only means changes in the average climate such as temperature but also changes in the frequency and intensity of extreme weather and climate events.

Climate Action Plan 2025 (CAP25) is the third statutory annual update to Ireland's Climate Action Plan under the Climate Action and Low Carbon Development (Amendment) Act 2021.

The plan lays out a roadmap of actions which will ultimately lead us to meeting our national climate objective of pursuing and achieving, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It aligns with the legally binding economy-wide carbon budgets and sectoral emissions ceilings that were agreed by Government in July 2022.

Reports from the Intergovernmental Panel on Climate Change reinforced the urgent need for greater action on climate adaptation globally. Observations show that Ireland's climate is changing in terms of sea level rise, increases in average temperature, changes in precipitation patterns, and weather extremes.

Climate change is expected to have diverse and wide-ranging impacts on Ireland's environment, society, and economic development, including on managed and natural ecosystems, water resources, agriculture and food security, human health, and coastal zones. The most immediate risks to Ireland from climate change are predominantly those associated with changes in extremes, such as floods, droughts, and storms.

EPA's Evidence Synthesis Report 4 found high levels of understanding among the Irish public about climate change and support for climate action with little variation depending on where people live. Almost nine in ten adults in all regions believe Ireland has a responsibility to act on climate change and almost eight in ten people in all counties believe acting on climate change will improve quality of life.

3.10.1 Climate Change Baseline Condition

According to Climate Status Report for Ireland 2020[38], observations show that Ireland's climate is changing in terms of sea level rise, increases in average temperature, changes in precipitation patterns, and weather extremes. Satellite observations indicate that the sea level around Ireland has risen by approximately 2 to 3

[37] EPA. 2023. Land Use Review: Fluxes, Scenarios and Capacity Synthesis Report. Accessed: May 2026. Available from: https://www.epa.ie/publications/research/evidence-synthesis-reports/evidence-synthesis-report-4-land-use-review-fluxes-scenarios-and-capacity-synthesis-report.php

[38] EPA 2021. Climate Status Report for Ireland 2020. Accessed: May 2026. Available from: https://www.epa.ie/publications/research/climate-change/Research_Report_386.pdf

mm a year since the early 1990s. There is evidence of an increase in river flows across the country between 1972 and 2017.

However, there is also evidence in recent years of an increase in the frequency and intensity of potential drought conditions, especially in the east of Ireland.

Ireland has experienced first-hand the consequences of climate change, including:

- All seasons have seen a rise in temperature and the annual average surface air temperature has increased by over 0.9°C in the last 120 years;
- There has been a reduction in the number of frost days and shortening length of the frost season;
- Sea levels around Ireland have risen by approximately 2 to 3 mm per year since the early 1990s; and
- Projections predict a significant reduction in average annual levels of spring and summer rainfall with a substantial increase in the frequency of heavy precipitation events in winter and autumn.

Temperature Trend

According to the CAP25, global temperatures reached unprecedented levels in 2024, with each month setting new heat records according to the EU Copernicus Climate Change Service. The first Global Stocktake at COP28 confirmed that current global efforts are insufficient to meet Paris Agreement goals and keep the 1.5°C temperature increase limit within reach.

As presented in the 2026 Met Eireann *Annual Climate Statement for 2025* the temperatures in Ireland in 2025 were:

- The average annual air temperature for Ireland in 2025 *(using the Island of Ireland dataset*)* was 11.14 °C, which is 1.59°C above the 1961-1990 long-term average (LTA) or 0.97°C above the most recent 1991-2020 LTA;
- This makes 2025 the second warmest year on record, which is only slightly behind the warmest year in 2023 (11.21°C) and only the second time with a mean over 11°C;
- The last 4 years (2022-2025) are now the 4 warmest years on record with 2024 tying 2007 for 4th warmest, and seven of the top ten warmest years have occurred since 2005; and
- The coldest year on record was in 1919 with 8.73°C, of the top ten coldest years – none have occurred since 2000.

Precipitation and Storms

According to the EPA State of the Environment Report 2024 (SOER24)[39], Heavy rainfall events have been 7% more intense over the last 30 years than over the previous 30 years, with evidence linking these events to climate change. Ireland has seen an increase in average annual national rainfall of approximately 60 mm or 5% in the period 1981-2010, compared to the 30- year period 1961-1990. Significant reductions are expected in average levels of annual, spring and summer rainfall. Projections indicate a substantial increase in the frequency of heavy precipitation events in Winter and Autumn (approximately 20%). Annual average rainfall in Ireland is presented in Figure 3-12. Additionally, the number of very intense storms is projected to increase over the North Atlantic region. Projections suggest that the winter track of these storms may extend further south and over Ireland more often.

[39] EPA 2025. State of the Environment Report 2024. Accessed: May 2026. Available from: https://www.epa.ie/our-services/monitoring--assessment/assessment/state-of-environment-report-/

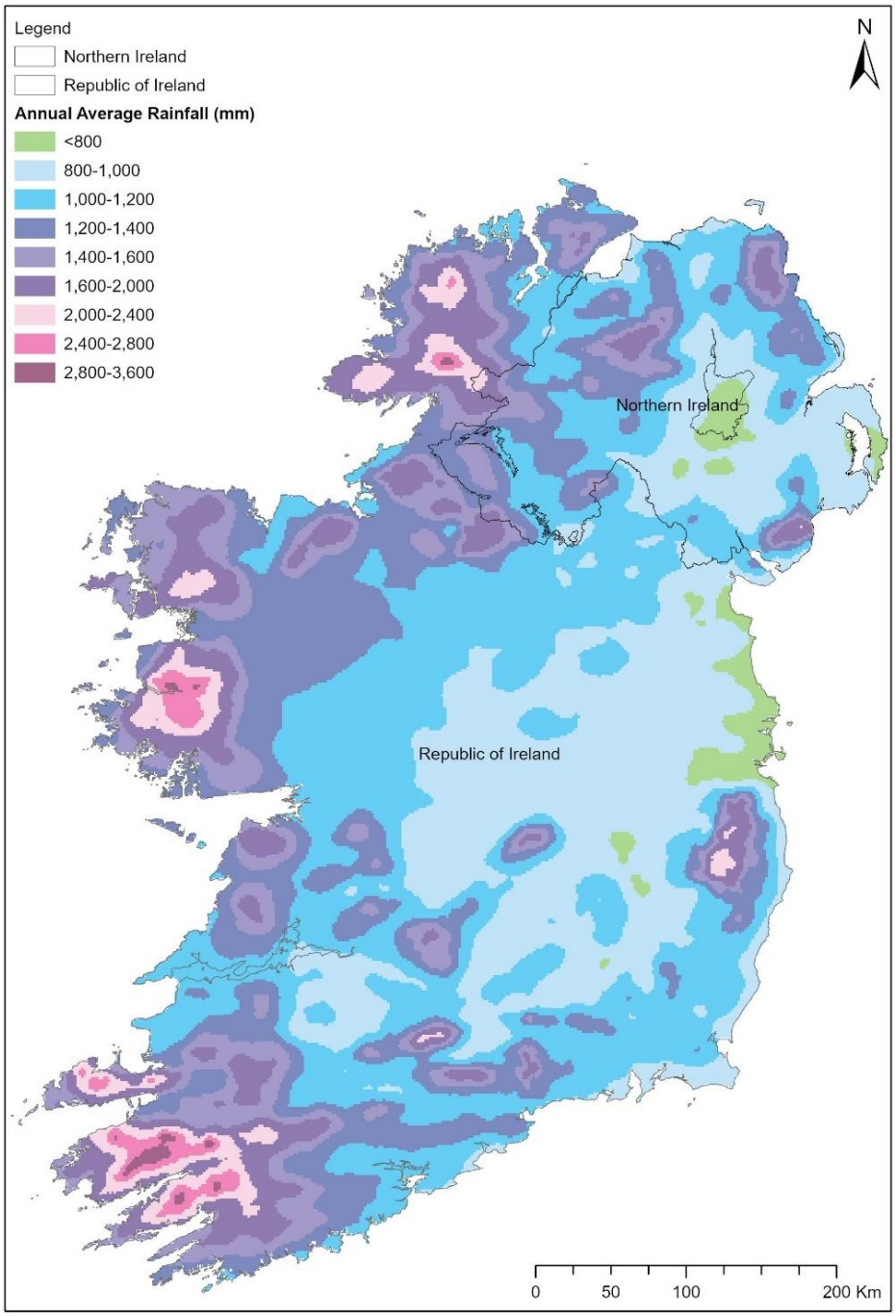

Figure 3-12 Annual average rainfall in Ireland[40]

Sea Level Rise

According to the SOER24, sea level rise has been accelerating, with a global mean sea level rise of more than 9 cm since 1993, primarily attributed to melting ice and thermal expansion of the oceans. Since the 1990s, satellites have shown increased rates of sea level rise with rates around Ireland of 2-3 mm per year, in line with global trends. Sea level is projected to continue to rise at this rate or greater. All major cities in Ireland are in coastal locations subject to tides, any significant rise in sea levels will have major economic, social and environmental impacts. Rising sea levels around Ireland would result in increased coastal erosion, flooding and damage to property and infrastructure.

[40] Met Éireann. 2023. Annual average rainfall. Accessed: May 2026. Available from: https://www.met.ie/climate/available-data

Ireland also has a high-energy wind and wave climate. The coastal infrastructure and communities are under increasing threat from extreme sea levels, including storm surges, due to sea level rise and increased storminess.

Marine environment

The CAP 25 states that climate change is causing fundamental and potentially irreversible changes to our marine environment, with effects for all society. Global ocean warming and ocean acidification may result in direct consequences for our marine ecosystems. At the same time, the intensity of storm events has increased, threatening coastal communities and infrastructure. These threats put at risk the many benefits provided by our seas, including food, energy, minerals, climate regulation, coastal protection, transport, leisure, and health and well-being.

Across the marine sector, a number of actions have been progressed under the Climate Action Plan 2021, including identifying areas of climate action appropriate to the Seafood Development Programme 2021-27, and completing the National Strategic Plan for Sustainable Aquaculture.

The CAP25 notes that significant developments are currently under way in the planning and consenting regime for the marine environment. Key actions delivered in 2024 were:

- Finalisation of Ireland's Marine Strategy Framework Directive Marine Strategy Part 1;
- Completion of an Ecological Sensitivity Analysis of the South Coast;
- Publication of the South Coast Designated Maritime Area Plan (DMAP); and
- Progress on the designation of marine Special Protection Areas (SPAs) under the Birds Directive – particularly the designation of the Seas off Wexford SPA, the largest SPA in the history of the state at 305,000 hectares.

3.10.2 Future Trends

According to Climate Change Advisory Council (CCAC) - *Annual Review 2026 – Our Changing Climate in 2025*[41], the past 11 years (2015–2024) on the globe have been the 11 warmest years on record. Ireland's overall warming trend continues in line with global trends, with 7 of the top 10 warmest years in Ireland having occurred since 2005.

The latest Irish climate change projections indicate further warming in the future. This temperature change means that the likelihood of extreme weather events occurring has increased.

Irish rainfall patterns are expected to change, with an increase in both dry periods and heavy rainfall events. Global sea levels continue to rise. Coastal erosion is already a major problem on certain parts of the coast. Storm surge and coastal flooding risks around Irish coasts are expected to increase along with 'compound events' involving a combination of heavy rainfall and high tides.

With every additional tenth of a degree of global warming, the risk of exposure to potential tipping points increases. One of the most important potential tipping points affecting Ireland is the shutdown of the Atlantic Meridional Overturning Circulation (AMOC). Moving large amounts of heat northwards in the North Atlantic Ocean, the AMOC helps to create Ireland's temperate climate. Observations over recent decades indicate a quasi-stable or slightly weakening AMOC.

There is growing scientific evidence that a tipping point leading to an abrupt AMOC weakening could be exceeded during this century. However, after the tipping point is exceeded it is possible that it would take

[41] CCAC 2026. Annual Review 2026 – Our Changing Climate in 2025. Accessed: May 2026. Available from: https://www.climatecouncil.ie/councilpublications/annualreviewandreport/CCAC-AR2026-2-our-changing-climate-final.pdf

several decades to a century to bring the AMOC to a fully weakened state, moving a possible AMOC shutdown into the 22nd century.

Consistent with this, climate model simulations constrained with observation data show that the AMOC will weaken gradually, reaching a 34–45% decline at the end of this century compared with present day.

3.10.3 Key Considerations for the Small WWTP National Plan and the SEA

Challenges

The European Climate Law writes into law the goal for Europe's economy and society to become climate-neutral by 2050. The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

Climate neutrality by 2050 means achieving net zero greenhouse gas emissions for EU countries as a whole, mainly by cutting emissions, investing in green technologies and protecting the natural environment.

Changes in climate have direct and indirect influence on Uisce Éireann and the services it provides, and the changing climate will affect Uisce Éireann in many ways. Changes are already being felt and are expected to continue over the period to 2050 and beyond, and these include:

- Higher temperatures will impact receiving waters (rivers and the sea), potentially requiring new wastewater treatment practices. New treatment technologies for clean water may also be needed;
- Higher temperatures can increase vulnerability of aquatic ecosystems to pollution;
- Increased challenges for drought planning to protect the environment while maintaining water supplies;
- Existing physical assets will need to manage additional rainfall and higher temperatures. They may be subject to increased fluvial and coastal flood and erosion risk; and
- Regulatory and policy commitments and compliance requirements on carbon emission targets and improving climate change resilience will have implications on operations and projects.

Opportunities

There are opportunities to achieve wider environmental benefits, infrastructure and service resilience and cost efficiency alongside contributing to meeting climate targets.

3.11 Biodiversity, Flora and Fauna

Biodiversity in Ireland is facing ongoing pressures which has the potential to cause further deterioration to the condition status of habitats and species.

Global trends of biodiversity loss are reflected in Ireland. According to Ireland's 4th National Biodiversity Action Plan[42], the main drivers of biodiversity loss are intensive agricultural and forestry practices, overfishing, invasive species, changes in land use (particularly for residential, agricultural and commercial development) and the over-exploitation of resources such as peatland loss.

[42] DCHG. 2024. Ireland's 4th National Biodiversity Action Plan 2023–2030. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/93973-irelands-4th-national-biodiversity-action-plan-20232030/

3.11.1 Biodiversity, Flora and Fauna Baseline Condition

Protected areas

The Habitats Directive seeks to ensure the appropriate conservation of natural habitats and of wild fauna and flora. The Habitats Directive (92/43/EEC) was transposed into Irish law in 1997 by the EC (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997). The Regulations were subsequently revised and consolidated in the EC (Birds and Natural Habitats) Regulations 2011, as amended (S.I. No. 477 of 2011). Under the Directive, Ireland, like other member states, was required to establish an ecological network of Special Areas of Conservation – SACs (sites which host a range of natural habitats and species listed in Annex I and II of the Directive). The Birds Directive (2009/147/EC) ensures the appropriate protection of SPAs (sites which are classified for rare and vulnerable birds listed in Annex I of the Directive).

There are two designated UNESCO Biosp'here Reserve sites in Ireland[43], namely Dublin Bay Biosphere Reserve and Kerry Biosphere Reserve.

There is a total of 917 protected areas in Ireland (13.9% of land, 2.3% of marine waters). There are 609 Natura 2000 sites including: 164 terrestrial SPAs (Birds Directive) on land and 3 marine SPAs; 433 terrestrial SACs (Habitat Directive) on land and 8 marine SACs (Figure 3-13). National Designated sites include 155 Natural Heritage Area (NHA) sites covering 603 km^2 of land.

According to EPA data[8] there are also 1,089 Proposed Natural Heritage Area (pNHA) sites covering 8,452 km^2 of land.

Ireland hosts 232 species that are protected under EU law, 60 of which are protected under the Habitat Directive. The number of species and habitats protected in each site varies depending on the location of the site, the biodiversity in the region, the designation being used, and the features that the site is being created to protect.

The NPWS[44] lists SAC habitats for Ireland, including raised bogs, blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets; many of which are reliant upon good water quality and quantity. The 25 Irish species which must be afforded protection include Salmon, Otter, Freshwater Pearl Mussels, Bottlenose Dolphin and Killarney Fern. SACs in Ireland cover approximately 13,500 km^2 of Ireland with around 53% of this being land and the remainder being attributed to water (marine or large lakes).

The SPAs designated under the Birds Directive include wetlands, bays and estuaries, agricultural and inland habitats and marine colonies. According to the NPWS[45], every summer 24 species of seabird, numbering over half a million individuals, seek out suitable breeding habitat principally on mainland cliffs and on marine islands. These breeding sites are in close proximity to the rich foraging habitat of continental shelf waters. Ireland is particularly important for its breeding populations of Manx Shearwater and Storm Petrel.

Ireland is situated along the east Atlantic flyway for waterbirds that breed in more northerly latitudes. Ireland's typically mild and wet winters make the wetlands an important resource for over 50 species, with 750 thousand waterbirds migrating on passage to more southerly resorts or to spend the entire winter each year. In some cases, significant proportions of the biogeographic populations of waterbirds overwinter in Ireland (e.g., Light-bellied Brent Goose, Black-tailed Godwit, Whooper Swan, Greenland White-fronted Goose and Ringed Plover).

[43] Ireland. n.d. UNESCO biospheres. Accessed: May 2026. Available from: https://www.ireland.ie/en/oecd-unesco/paris/ireland-and-unesco/biospheres/

[44] NPWS. 2026. Special Areas of Conservation (SAC) and Special Protection Area (SPA). Accessed: May 2026. Available from: https://www.npws.ie/maps-and-data/designated-site-data/download-boundary-data

Ireland's SPA Network covers over 597,000 hectares of marine and terrestrial habitats. The marine areas include some of the productive intertidal zones of Ireland's bays and estuaries that provide vital food resources for several wintering wader species. Marine waters adjacent to the breeding seabird colonies and other important areas for sea ducks, divers and grebes are also included in the network.

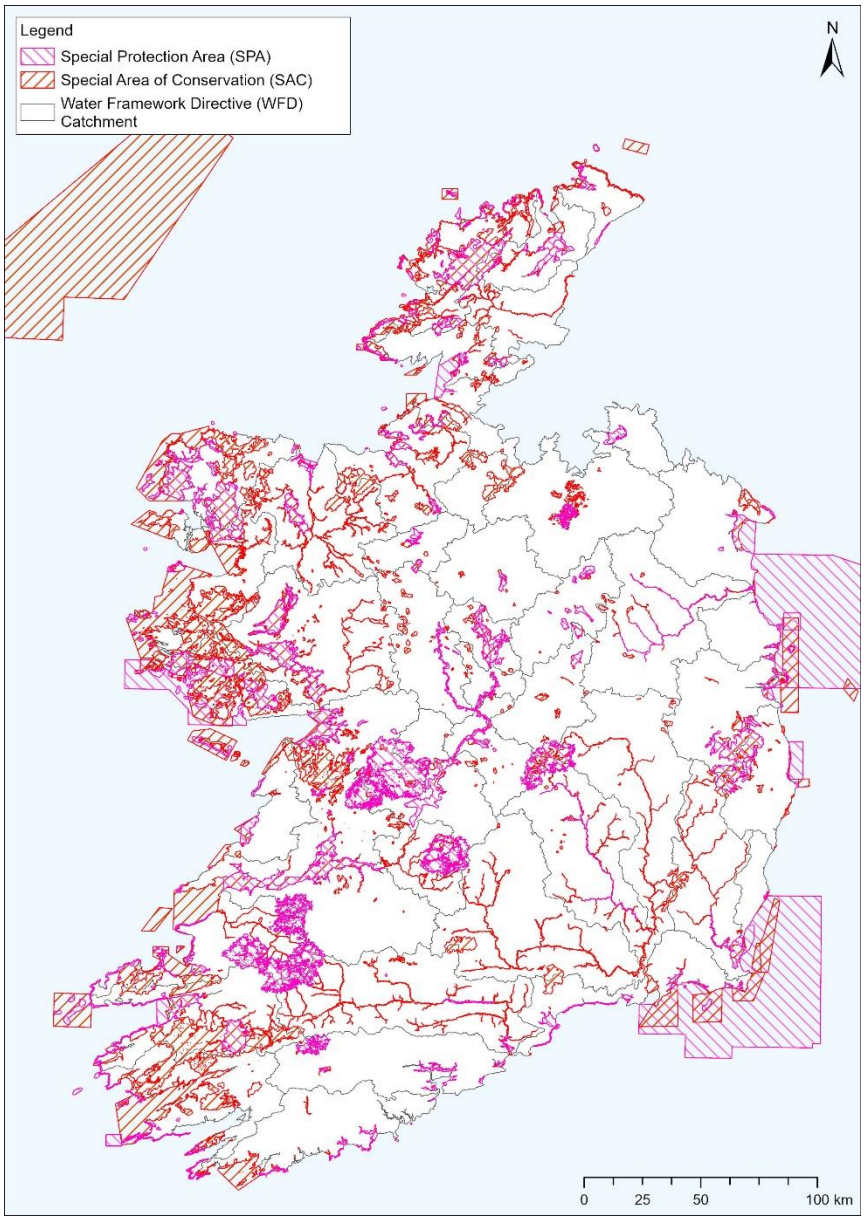

Figure 3-13 European protected biodiversity sites (NWPS 2026)[46]

The terrestrial areas of the SPA network include coastal habitats, inland wetland sites important for wintering waterbirds and extensive areas of blanket bog and upland habitats that provide breeding and foraging resources for species; many of which are reliant upon good water quality and quantity. Agricultural land also represents a share of the SPA network ranging from extensive upland areas where hedgerows, wet grassland and scrub offer feeding and/or breeding opportunities to the intensively farmed coastal polder land.

There are also 45 Ramsar sites, which are wetlands of international importance, including shallow marine waters, rocky shores, estuaries, intertidal mudflats or marshes, plus inland rivers, lakes, wetlands and peats.

[46] NPWS. 2026. Designated area spatial data (SPA, SAC, NHA, pNHA). Accessed: May 2026. Available from: https://www.npws.ie/maps-and-data/designated-site-data/download-boundary-data

Figure 3-14 presents national designated sites including Ramsar sites, Natural Heritage Areas, Proposed Natural heritage Areas, National Parks and Nature Reserves.

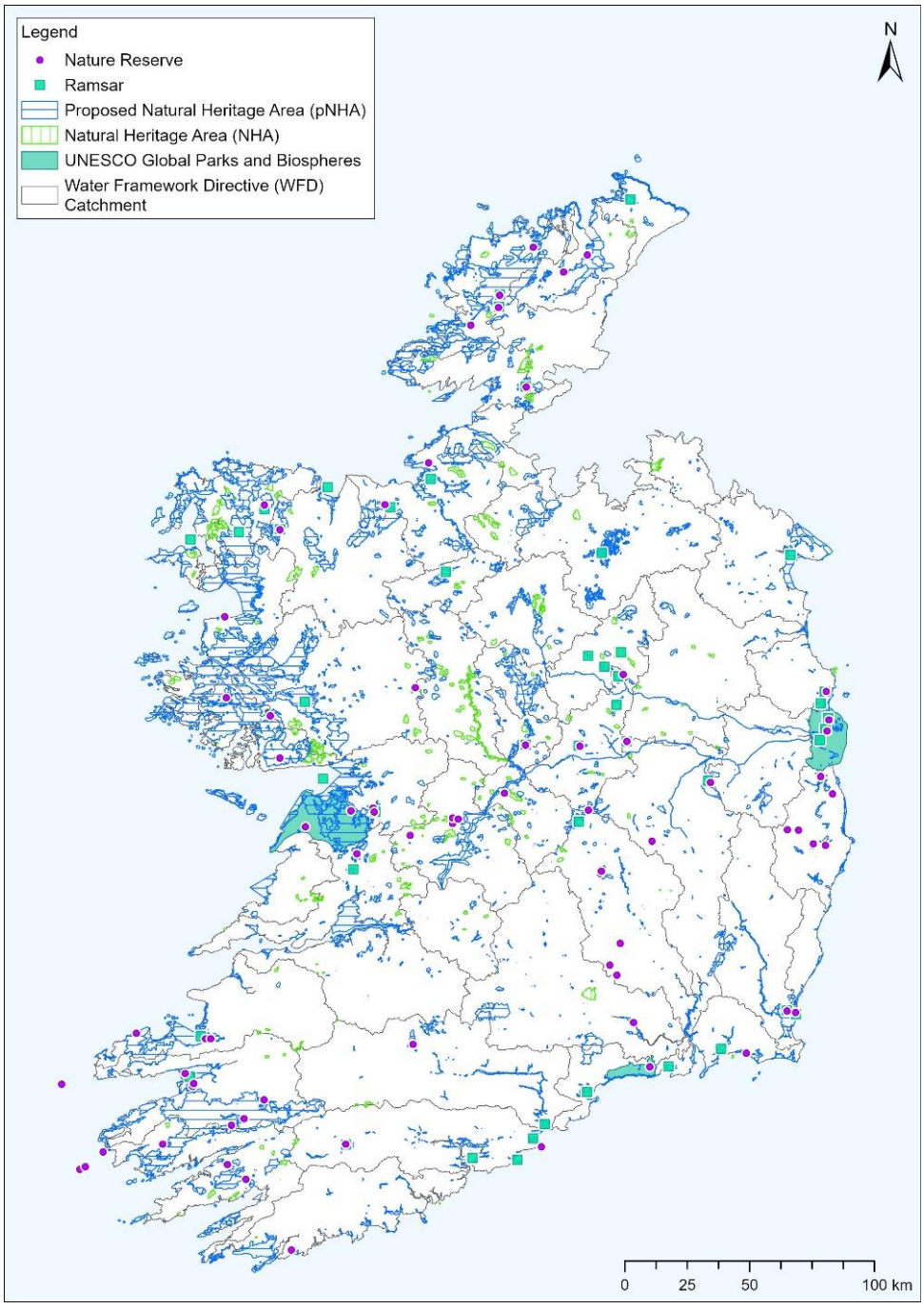

Figure 3-14 National Biodiversity sites, Nature Reserves and UNESCO Biospheres (NWPS 2026)[46] (DCEE 2026)[47]

Habitats and Species Conservation Status

The status of protected species and habitats in Ireland is monitored by the National Parks and Wildlife Service (NPWS). Conservation status is assessed at a national level and the assessment takes into account the status

[47] DCEE 2026. Marine Spatial Planning. Accessed: May 2026. Available from: RAMSAR https://msp-opendata-marineplan.hub.arcgis.com/datasets/marineplan::ramsar-wetland-site-1/explore?location=52.281973%2C-10.432639%2C6, Nature Reserves https://msp-opendata-marineplan.hub.arcgis.com/datasets/marineplan::nature-reserves-1/explore?location=52.281973%2C-10.432639%2C6, UNESCO Global Parks and Biospheres https://msp-opendata-marineplan.hub.arcgis.com/datasets/marineplan::unesco-global-geoparks-and-biospheres-1/explore?location=52.375000%2C-11.358335%2C5

of the range, area, structure and functions as well as future prospects of each species and habitat before defining an overall status for each.

The 2025 conservation status assessment updates the 2019 assessment and reported that 90% of Irish habitats listed in the Habitats Directive are currently in Unfavourable status (Figure 3-15), with over half showing continued decline. Agricultural pressures remain widespread. While alien invasive species are commonly reported, they vary according to habitat type, with Common Cordgrass (*Spartina anglica*) recorded in salt marsh habitats, and Himalayan Balsam (*Impatiens glandulifera*) in wetlands. Pollution, and specifically nutrient enrichment, affects freshwater and marine habitats, while hydrological impacts are common in wetland habitats. While impacts on condition are more widespread, ongoing losses are significant in grassland and fen habitats. The species status assessments are reported as generally faring better, with 51% in Favourable status (Figure 3-16), including most of the bat species, seals, and cetaceans. A declining trend is reported for 18% of species, with freshwater species most at risk, particularly from pollution.

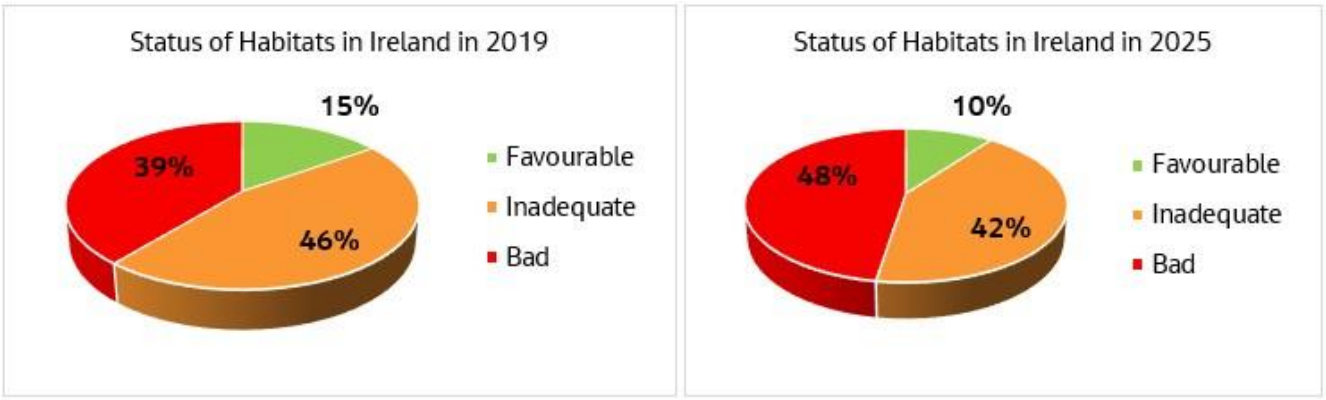

Figure 3-15 Status of habitats in Ireland in 2019 and 2025[8]

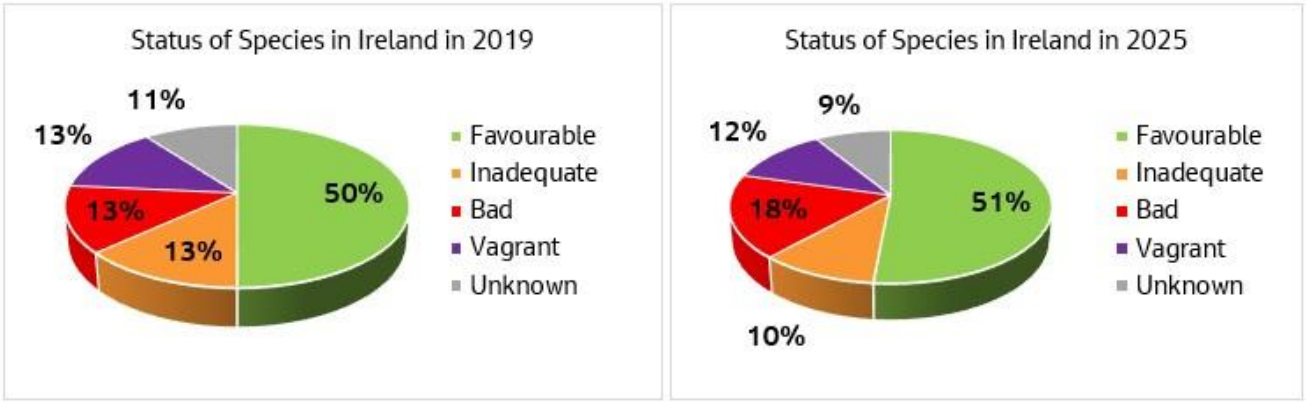

Figure 3-16 Status of species in Ireland in 2019 and 2025[8]

Aquatic Habitats (including Freshwater, Coastal and Marine)

Aquatic biodiversity encompasses freshwater ecosystems including lakes, ponds, reservoirs, rivers, streams, groundwater, wetlands, coastal and marine. Aquatic species are dependent on clean water and suitable flows; macro-invertebrates and some species of fish, such as Atlantic salmon, are therefore good indicators of the condition of the overall water environment.

There are 27 water-dependent habitat types and 37 water-dependent species in Ireland, identified as those associated with hydrological, aquatic, or marine environments. Of these, the Freshwater Pearl Mussesl, is considered to be a highly sensitive surface water dependent species in Ireland, and coastal lagoons a highly

sensitive water dependent habitat. Of the water dependent habitats, 3 have a Favourable Conservation Status, while 21 of water dependent species are at Favourable Conservation Status[48].

Coast and Marine Environment

In Ireland, the Habitats Regulations, is currently the only legislative instrument providing protection to habitats in the marine environment. For habitats, this protection regime is applicable within the Exclusive Economic Zone. Under this legislation, a series of habitats are identified for which SACs must be created and within which these habitats must be maintained at favourable conservation status.

The coastline and oceans are made up of many types of zones and habitats. The zone we are most likely to encounter is the coastal zone, the area of transition between land and sea. Moving seaward past the coastal zone is the intertidal zone, the area of seashore between the high and low tide. From there past the low tide line out to the continental shelf there is the subtidal zone, and then the oceanic zones to the deepest parts of the ocean[49].

Within these zones exists a myriad of habitats and species. These habitats are some of the most complex and dynamic on earth and range from being fully emersed to fully submerged depending on their proximity to the shoreline. The dynamic nature of the ocean means in order to survive, species must adapt to changing levels in light, temperature, salinity, oxygen and pressure.

Freshwater Pearl Mussels (Margaritifera margaritifera)

Freshwater Pearl Mussels are critically endangered molluscs that need clean, free flowing, well oxygenated rivers and a clean riverbed. They are declining nationally and internationally due to deteriorating water quality. The EPA identified 10 priority areas in their 2024 Wastewater Report (see table below), where wastewater treatment must improve to protect Freshwater Pearl Mussels' habitats. This is down from 12 areas the year before (2023), following the removal of Castletown, Co. Laois and Cecilstown, Co. Cork from the priority areas. As presented in Table 3-12 Uisce Éireann has completed improvement measures at four of the 10 priority areas and assessments are ongoing to determine if these have effectively resolved the risks to Freshwater Pearl Mussels. However, infrastructural upgrades required at the remaining six priority areas are not scheduled to begin until 2029 or 2030. The EPA require Uisce Éireann to accelerate the pace of delivery of these works.

Table 3-12 improvement measures to protect Freshwater Pearl Mussels habitats

County	Urban Area
Improvement works have been carried out and assessments are ongoing to determine if these measures have resolved the risks to Freshwater Pearl Mussels	
Cork	Boherbue
	Castletownroche
	Inchigeelagh
	Mallow
Uisce Eireann plans to begin infrastructural upgrades in 2029 0r 2030	
Cork	Ballydesmond
	Kanturk
	Kealkill

[48] NPWS. 2019. Article 17 Reports 2019. Accessed: May 2026. Available from: https://www.npws.ie/publications/article-17-reports/article-17-reports-2019

[49] Clean Coasts. 2023. Marine Biodiversity in Ireland. Accessed: May 2026. Available from: https://cleancoasts.org/marine-biodiversity-in-ireland/#species-directory

County	Urban Area
	Lombardstown
Kerry	Kilgarvan
Laois	Ballyroan

Invasive Species

With increased globalization there is an increase in the movement of non-native species around the world and numerous non-native species, many introduced only in the last 200 years, have become successfully established over large areas of Europe[50]. Research by the European Commission funded DAISIE project, showed that non-native species are invading Europe at an unprecedented rate. 10,822 non-native species are listed for Europe of which 10-15% are expected to have a negative economic or ecological impact[51]. This is demonstrated by trend analysis of non-native species introductions for Ireland where 13% of the species recorded and assessed in Ireland are high impact invasive species[52]. The study assessed 377 non-native species; of these, 21% occur in freshwater environments. The trend analyses also showed that four times as many species were recorded in the 20th Century as in the previous one with the trend of introductions increasing dramatically from 2001 to 2010 for high impact invasive species. Freshwater environment showed the greatest rate of invasive species increase since 1980.

In addition to the objective to halt biodiversity loss, Ireland has a responsibility to prevent the spread of invasive species. An invasive species is a non-native species which has a tendency to spread to an extent determined to cause damage to the environment, the economy or human health in the country into which it has been introduced. Invasive species can dominate and marginalise native species, lowering the value of the overall ecosystem. Invasive species (including aquatic species) in Ireland are controlled under regulations 49 and 50 of the Habitats Regulations. Table 3-13 includes a list of 'The Third Schedule' invasive species present in Ireland (excluding invasive species present on offshore islands only).

Table 3-13 Invasive species present in Ireland[53]

Animals	Plants
Didemnum spp.	*Lysichiton americanus*
Perophora japonica	*Grateloupia doryphora*
All freshwater crayfish except Austropotamobius pallipes	*Gunnera manicata*
Rana catesbeiana	*Juncus planifolius*
Neogale vison	*Aponogeton distachyos*
Urosalpinx cinerea	*Spartina (all species and hybrids)*

[50] Hulme, P.E., Roy, D.B., Cunha, T. & Larsson, T. B. 2009. A pan-European inventory of alien species: rationale, implementation and implications for managing biological invasions. Handbook of alien species in Europe (ed DAISIE), pp. 1-14. Springer, Dordrecht.
[51] European Commission. 2008. Commission presents policy options for EU strategy on invasive species. Press release: European Commission – IP/08/1890 05/12/2008. Accessed: May 2026. Available from: http://europa.eu/rapid/press-release_IP-08-1890_en.htm
[52] O'Flynn, C., Kelly, J. and Lysaght, L. 2014. Ireland's invasive and non-native species – trends in introductions. National Biodiversity Data Centre Series No. 2. Ireland.
[53] Invasive Alien Species in Ireland. n.d. Invasive Animals of National Concern and Invasive Plants of National Concern. Accessed: May 2026. Available from: https://invasives.ie/

Animals	Plants
Ceratostoma inornatum	*Lagarosiphon major*
Rapana venosa	*Zostera japonica*
Corbicula fluminea	*Cabomba caroliniana*
Balanus improvises	*Hydrocotyle ranunculoides*
Lepus europaeus	*Nymphoides peltata*
Branta canadensis	*Heracleum mantegazzianum*
Cyprinus carpio(except Koi varieties)	*Reynoutria sachalinensis*
Eriocheir sinensis	*Gunnera tinctoria*
Hydropotes inermis	*Salvinia molesta*
Leuciscus cephalus	*Impatiens glandulifera*
Bufo bufo	*Koenigia polystachya*
Myocastor coypus	*Carpobrotus edulis*
Leuciscus leuciscus	*Reynoutria japonica*
Dama dama	*Egeria densa*
Sciurus carolinensis	*Polygonum perfoliatum*
Anser answer	*Crassula helmsii*
Harmonia axyridis	*Myriophyllum aquaticum*
Caprella mutica	*Rhododendron ponticum (including R.x superponticum)*
Muntiacus reevesi	*Rubus spectabilis*
Ondatra zibethicus	*Hippophae rhamnoides*
Dreissena rostriformis	*Hyacinthoides hispanica*
Dreissena polymorpha	*Allium triquetrum*
	Undaria pinnatifida
	Trapa natans
	Azolla filiculoides
	Ludwigia (all species)
	Elodea (all species except Elodea Canadensis)

Animals	Plants
	Sargassum muticum

EU Regulation on Invasive Alien Species (IAS) and pathway action plans

The EU Regulation on Invasive Alien Species entered into force on 1st January 2015. This Regulation is based on the Convention of Biological Diversity's Guiding Principles of prevention, prioritization and coordination and seeks to address the problem of Invasive alien species in a comprehensive manner. The objective is to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human health or economic impacts that these species can have.

Under Article 13 (1) of the EU Regulation on IAS, Member States are required to carry out comprehensive analysis of the pathways of unintentional introduction and spread of invasive alien species and 'identify the pathways which require priority action because of the volume of species or of the potential damage caused by the species entering the Union through those pathways. By analysing the risk of each of the IAS of Union concern being introduced and spread in Ireland with the potential impact they may have, the associated pathways are ranked and prioritized. For the priority pathways, Pathway Action Plans are developed.

The Article 13 requirement for development of pathway action plans is in line with the international Convention on Biological Diversity Strategic Plan for Biodiversity 2011-2020, Aichi Target 9 and the similar European Commission's Target 5 of the EU Biodiversity Strategy to 2020 which states 'By 2020, Invasive Alien Species and their pathways are identified and prioritized, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new IAS'.

3.11.2 Future Trends

There are many challenges to address in the future. These challenges will be further exacerbated by the effects of climate change, particularly on peatland habitats and fish species. Much will depend on the identification and development of necessary conservation measures and the elaboration of mechanisms for the delivery of these measures in the next period. Operational Programmes accessing EU funding instruments will need to be used to meet the strategic national and EU objectives for biodiversity, including in Natura 2000.

Future trends will be influenced by changes/additions to existing designated sites (SACs, SPAs and NHAs). A number of pNHAs may be reviewed and upgraded to NHAs and, similarly, sites listed as tentative on the UNESCO Heritage List may be upgraded to designated heritage sites.

Habitats and species within and outside protected sites are all potentially affected by climate change, and this can also mean that they are more vulnerable to other pressures such as from land loss, disturbance, severance and fragmentation.

Invasive species which are listed as potential threats may become established threats in the future. The continuing development of the National Biodiversity Data Centre National Invasive Species Database will aid in the documentation of the distribution of invasive species in Ireland. These reports and datasets will go towards the implementation of the recent European legislation on halting the spread of invasive species.

The challenges involved in protecting Ireland's habitats and species are now more serious than ever and need urgent action. But nature can bounce back under the right conditions. Implementing national biodiversity policies, such as the National Biodiversity Action Plan (NBAP), requires an increased level of collaboration and

coordination across multiple sectors and the whole of society. This can also give rise to indirect co-benefits for other sectors and environmental issues such as climate change resilience and water quality[54].

The third cycle RBMP[55] includes proposals for a range of measures intended to support improvements to water quality and biodiversity, addressing nutrients from agriculture, developing a new Controlled Activities for the Protection of Waters regime to address physical condition of water bodies, a restoration programme to address past impacts of construction on or near water bodies programme, review of Waste Water Discharge Licences, and an expansion on the Priority Areas for Action - including Areas for Restoration, Areas for Protection and Catchment Projects.

Ireland's 4th NBAP[56] sets the national biodiversity agenda for the period 2023-2027 and aims to deliver the transformative changes required to the ways in which the nature is valued and protected. Key considerations in the development of the NBAP are set out below:

- Build on the successes of previous NBAPs, while addressing shortfalls and implementation challenges;
- Expand the governance and oversight of the NBAP and develop a robust Monitoring and Evaluation Framework to track progress;
- Achieve buy-in and ownership of the NBAP across all levels of government and society;
- Embed biodiversity at the heart of climate action;
- Achieve greater coherence between biodiversity policy and other policy areas;
- Strengthen compliance and enforcement of existing legislation;
- Increase focus on addressing the root causes and drivers of biodiversity loss rather than consequences of biodiversity loss;
- Determine biodiversity priorities, allocate financial and other resources, internalise the value of nature and recognise the cost of inaction; and
- Significantly strengthen the science base and enhance data accessibility.

The EU's Nature Restoration Law Regulation 2024 combines an overarching restoration objective for the long-term recovery of nature in the EU's land and sea areas with binding restoration targets for specific habitats and species. These measures should cover at least 20% of the EU's land and sea areas by 2030, and ultimately all ecosystems in need of restoration by 2050. This has significant implications for national strategies and targets. The WSSP 2050 will need to address the requirements of the Nature Restoration Law as these are brought into national policy and regulations and including through future updates to Uisce Éireann's own Biodiversity Action Plan.

3.11.3 Key Considerations for the Small WWTP National Plan and SEA

Key challenges and opportunities in relation to Biodiversity, Flora and Fauna:

Challenges

- Water quality impacts on aquatic habitats and species related to wastewater discharges;

[54] EPA. 2024. Ireland's State of Environment Report 2024 Accessed: May 2026. Available from: https://www.epa.ie/our-services/monitoring--assessment/assessment/state-of-environment-report-/

[55] DHLGH. 2024. River Basin Management Plan 2022 - 2027. Accessed: June 2026. Available from: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/policy-information/river-basin-management-plan-2022-2027/

[56] DHLGH. 2023. Ireland's 4th National Biodiversity Action Plan 2023–2030. Accessed: June 2026. Available from: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/irelands-4th-national-biodiversity-action-plan-20232030/

- Barriers for species movement - avoiding creating barriers and taking opportunities for removing barriers or incorporating fish/eel passes in existing barriers and for improving habitat connectivity along riparian corridors and in the wider landscape.;
- Avoiding contributing to the spread of invasive species during construction or operational activities; and
- Construction impacts on terrestrial and aquatic habitats.

Opportunities

- Opportunities for reducing pollution loads from wastewater discharge affecting aquatic and water dependant habitats and species;
- Opportunities to include biodiversity enhancement measures in schemes to ensure no net biodiversity loss and support achieving net gain and improved connectivity - this approach is part of Uisce Éireann's Biodiversity Action Plan (BAP);
- Opportunities for multiple benefits from habitat creation/ restoration to be recognised for example through using natural capital and ecosystems services approaches which can support the use of nature-based solutions and catchment management approaches; and
- Opportunities for contributing to improvements in water quality and resources through better wastewater treatment and potential to reduce barriers to fish migration.

3.12 Material Assets

SEA legislation includes "material assets" as a topic to be addressed in the SEA. However, it does not clearly define what this topic includes. For the purpose of this report, Material Assets are considered to be the natural and built assets (non-cultural assets) and resources required to enable society to function as a place to live and work, in giving them intrinsic, economic value.

3.12.1 Material Assets Baseline Condition

Material assets considered here include:

- Land use/natural material assets resources which include agricultural land, peatlands and forestry (see also geology and soils topic);
- Built assets - include infrastructure relating to public open spaces and buildings, schools, healthcare facilities, residential and social buildings such as housing, and infrastructural networks such as electricity, gas, transport with emphasis on water supply and wastewater infrastructure and management as most relevant; and
- Waste management - an aspect of resource management and an important part of the circular economy.

These assets all need to be considered in new wastewater treatment services and infrastructure planning.

3.12.2 Land Use (Natural Assets)

The land use in Ireland in 2018 was composed predominantly of grassland, swamp and saltmarsh; followed by forest, woodland and scrub. See Table 3-14 for a national breakdown of land cover in Ireland[57].

Table 3-14 Total area in hectares (ha) and percentage of national area by Level 1 group for National Land Cover 2018

Category	Category total area (ha)	Category total area (%)
Artificial Surfaces	268,016	3.79
Exposed Surfaces	133,270	1.89
Cultivated Land	427,033	6.05
Forest, Woodland And Scrub	1,290,757	18.27
Grassland, Swamp And Saltmarsh	3,828,161	54.20
Peatland	462,292	6.55
Heath And Bracken	456,917	6.47
Water bodies	196,800	2.79

Grassland, swamp and saltmarsh is the most widespread land cover class across the country and is dominated by the subsection 'Improved Grassland' (41.53% of national area), followed by 'Wet Grassland' (9.47%). The forest, woodland and scrub land cover class is most prominent in the east of Ireland in the counties of Wicklow, Leitrim and Clare. Cultivated land is more prominent in the east and south of the country in the counties of Louth, Wexford and Carlow. The 'Peatland' land cover class is distributed primarily to the north-east and south of Ireland and the counties of Donegal and Kerry have significant areas of the 'Heath and Bracken' land cover class. The distribution of the main associated sub-classes of land cover in Ireland is presented in Figure 3-17.

[57]EPA.2018. National Land Cover Map 2018 - Final Report. Accessed: May 2026. Available from: https://tailte.ie/wp-content/uploads/2025/03/National-Land-Cover-Map-Final-Report-2018.pdf

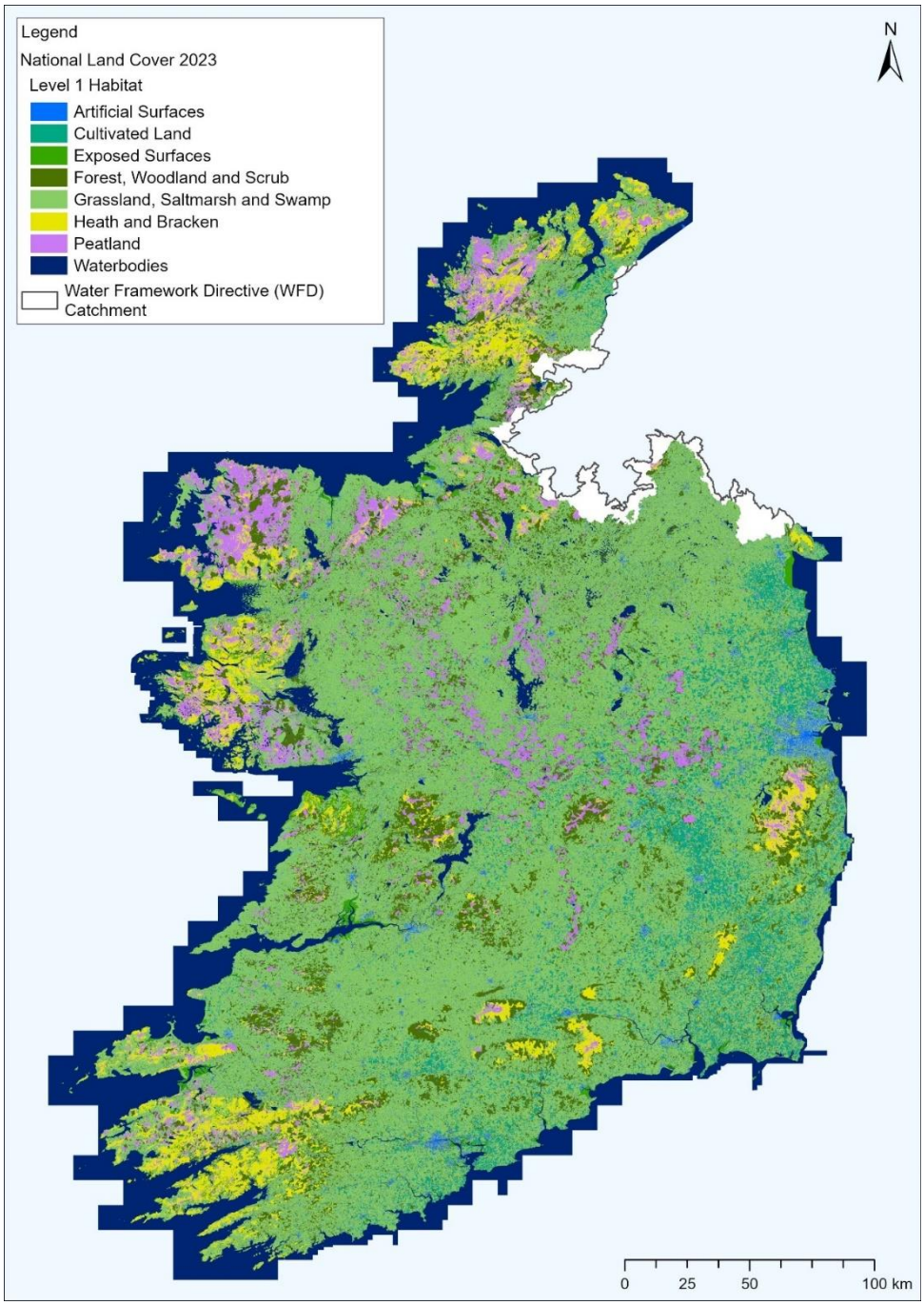

Figure 3-17 Land use - natural assets (Tailte Éireann 2026)[58]

3.12.3 Built Material Assets

Settlements

Dublin city and suburbs is the largest settlement in Ireland with a population of 1,458,154 in 2022. This is followed by the cities and suburbs of Cork (population of 584,156), Galway (277,737), Kildare (247,774), and Meath (220,826) according to CSO[59]. Across the country, these cities are the most urbanised areas. Overall, the urban population accounted for 63.91% of the total population of Ireland in 2021.

[58] Tailte Éireann.2026. - MapGenie. Accessed: May 2026. Available from: https://tailte.ie/services/mapgenie/
[59] CSO.2023. Census of Population 2022 - Summary Results. Accessed: May 2026. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-cpsr/censusofpopulation2022-summaryresults/

National infrastructure

There are five “Ports of National Significance” in Ireland: Dublin Port, Shannon Foynes, Port of Cork, Rosslare and Port of Waterford. There are also four “Ports of Regional Significance”: Bantry Bay, Drogheda, Galway and Greenore. There are also three main airports (Dublin, Cork and Shannon) and a number of regional airports, including Donegal, Galway, Kerry, Knock, Sligo and Waterford. Other significant transport infrastructure includes 100,000km of road network and 2,400km of railway.

Ireland’s canals once played a significant role as a transport network. However, they are now mainly used for recreational and heritage purposes. Key canals are the Grand Canal, Royal Canal, Boyne Canal and Shannon-Erne Waterway.

In Ireland, hydroelectric power plants make good use of water infrastructure to generate electricity. The most common type of hydroelectric power plant uses a dam across a river to release the reservoir flow through a turbine. The biggest in Ireland are Ardnacrusha on the River Shannon, Ballyshannon on the River Erne and Poulaphouca on Blessington Lake. The distribution of the main build assets in Ireland is presented in Figure 3-18.

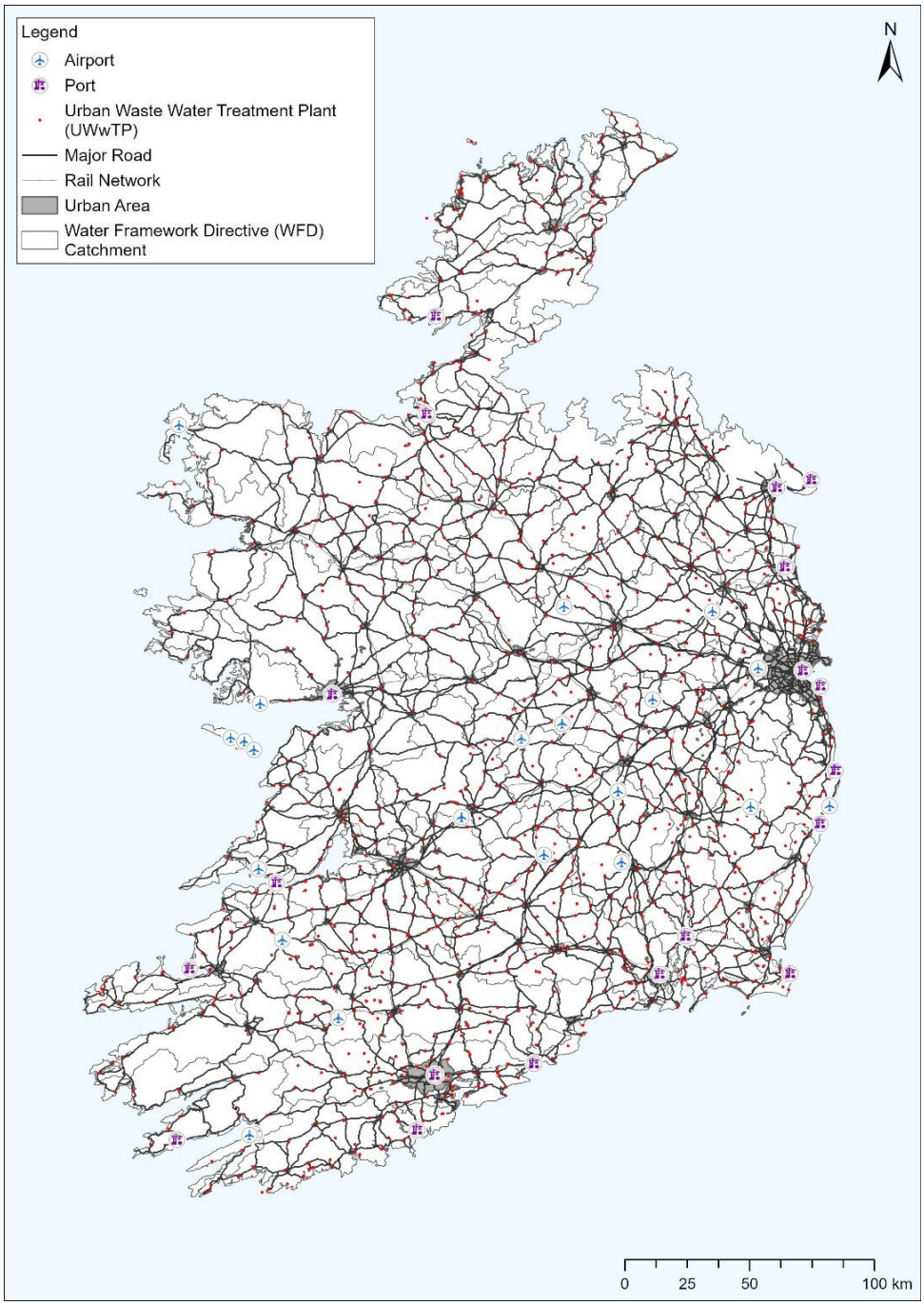

Figure 3-18 Land use: Built Assets (Tailte Éireann 2026)[60,61,62,63,64]

Wastewater infrastructure

The European Union's Urban Wastewater Treatment Directive sets standards for treating wastewater at all large urban areas (large urban areas are towns and cities with a population equivalent of at least 2,000 that discharge effluent to freshwater or estuaries, and areas with a population equivalent of at least 10,000 that

[60] Tailte Éireann.2026. Airports. Accessed: May 2026. Available from: https://data-osi.opendata.arcgis.com/datasets/osi::airports-national-250k-map-of-ireland/explore?location=52.951458%2C-8.049278%2C8

[61] Tailte Éireann.2026. Urban Areas. Accessed: May 2026. Available from: https://data-osi.opendata.arcgis.com/datasets/osi::cso-urban-areas-national-statistical-boundaries-2022-ungeneralised/explore?location=53.383750%2C-8.233600%2C7

[62] Tailte Éireann.2026. Rail Network. Accessed: May 2026. Available from: https://data.gov.ie/dataset/rail-network-national-250k-map-of-ireland1

[63] Tailte Éireann.2026. Roads. Accessed: May 2026. Available from: https://data-osi.opendata.arcgis.com/datasets/osi::roads-national-250k-map-of-ireland/about

[64] Marine Spatial Planning. 2026. Ports. Accessed: May 2026. Available from: https://msp-opendata-marineplan.hub.arcgis.com/datasets/marineplan::ports-harbours-and-shipping-1/explore?layer=0&location=52.462225%2C-11.045722%2C8

discharge effluent to coastal waters), with the objective of protecting the environment from the harmful effects of wastewater discharges. The final deadline to meet the standards was 2005 and Ireland's performance in 2024 is summarised below:

- 185 large urban areas in Ireland were subject to the EU wastewater treatment standards;
- 171 areas complied with the standards; and
- 14 areas failed to comply with the standards.

Almost half of Ireland's urban wastewater (49%) is generated in the 14 areas that failed the standards according to EPAs report Urban Wastewater Treatment in 2024 [65]. Most of this is produced in the greater Dublin area and conveyed to the overloaded treatment plant at Ringsend, which (at 2024 level) does not provide a sufficient level of treatment.

A €550 million upgrade of Ringsend treatment plant was finalized in 2025, delivering an increase treatment capacity, advanced nutrient removal using Aerobic Granular Sludge (AGS) technology, a phosphorus recovery facility and an expanded sludge treatment facility with 40–50% of the plant's energy now produced internally.

Since the beginning of 2024, four towns and villages that previously discharged raw sewage were connected to new treatment plants. These plants now treat wastewater from the equivalent of 25,000 people in Arklow, Co. Wicklow, Kilrush, Co. Clare, Omeath, Co. Louth and Coolatee, Co. Donegal.

15 small towns and villages discharge raw sewage into seas and rivers because they are not connected to wastewater treatment plants. Work is underway to connect six of these to treatment between 2025 and 2027, with the remaining nine scheduled to receive treatment by the end of the decade. Since the beginning of 2024, four towns and villages that previously discharged raw sewage were connected to new treatment plants. These plants now treat wastewater from the equivalent of 25,000 people in Arklow, Co. Wicklow, Kilrush, Co. Clare, Omeath, Co. Louth and Coolatee, Co. Donegal.

The third RBMP (2022–2027) identifies UWW as a significant pressure in 197 water bodies, including just 63 associated with small WWTPs. This represents a substantial improvement from the previous RBMP (2018–2021), where 293 water bodies were affected, including 130 linked to small WWTPs.

3.12.4 Waste Management

Ireland's waste management landscape changed radically with the implementation of the Waste Management Act in 1996. From a low base, the country made great strides in reducing disposal to landfill, providing an infrastructure for the collection of recyclables and developing expertise in waste management, regulation, research and innovation. Ireland showed innovation by being the first country to introduce a plastic bag tax and to launch a National Waste Prevention Programme. However, Ireland has reached a plateau in relation to waste management; to further deliver the necessary waste prevention and circular economy ambitions will be a challenge.

The latest data highlights the need for Ireland to do more to prevent waste, improve recycling, increase self-sufficiency and move towards a more integrated approach to waste management, as part of implementation of the new national waste policy, the EU Circular Economy Package and the European Green Deal.

The latest waste statistics from EPA in 2020[66], indicate that waste generation is increasing in many waste streams. Construction and demolition waste is the largest waste stream in Ireland in 2020 (over 8.2 million tonnes). Ireland generated approximately 16.2 million tonnes of waste in 2020, corresponding to 3.25 tonnes

[65] EPA. 2025. Urban Waste Water Treatment in 2024. Accessed: May 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/waste-water/Urban-Wastewater-Treatment-in-2024-report.pdf

[66] EPA.2023. National Waste Statistics 2020 Summary Report for 2020. Accessed: May 2026. Available from: https://www.epa.ie/media/epa-2020/publications/monitoring-amp-assessment/waste/EPA_National_Waste_Stats_Summary_Report_2020.pdf

per person, up from 12.7 million tonnes (2.77 tonnes per person) in 2012. Although, the amount of municipal waste recycled has increased by 11% since 2016, total waste generated has also increased by 11%.

Ireland missed the waste electrical and electronic equipment (WEEE) collection target in 2020 and is in danger of missing future EU waste targets for municipal and plastic packaging waste recycling. Ireland is still heavily reliant on export markets, particularly for the treatment of municipal waste, hazardous waste, packaging waste, WEEE and biowastes.

Wastewater treatment sludge

Sewage sludge is a by-product of wastewater treatment. The Urban Wastewater Treatment Directive requires sewage sludge to be reused whenever appropriate. Good sludge management, such as removing sludge from a treatment plant at an appropriate rate, is an essential part of the treatment process. Uisce Eireann removed 69,419 tonnes of sewage sludge from its treatment plants in 2024[65]. Sludge contains valuable nutrients such as nitrogen and phosphorus and most of this was subsequently reused as a fertiliser or soil improver on agricultural land (62,607 tonnes), with the rest used for composting (6,812 tonnes).

Uisce Éireann is progressing a number of initiatives through the water treatment plant residual strategy taking a circular economy model for the management of sludges, as they provide a sustainable source of precious finite materials. The sludge provides an alternative/complement to current raw materials being used. We view water sludge as a valuable resource particularly in the context of the circular economy model. This model is in direct contrast to the current linear model of 'take, make, consume, dispose', with landfill being the primary end point. Uisce Eireann are progressing a number of potential sustainable options. Recovery/reuse of the sludge is the preferred long term sustainable option for Uisce Éireann. A key milestone has been reached with nearly 90% of water treatment sludge going to circular economy outlets.

The draft National Bioresources Strategy[67] being developed by Uisce Éireann, outlines a long-term approach to managing wastewater sludge and bioresources in Ireland. It aims to contribute to a circular economy and net zero carbon ambitions by sustainable and efficient management. The strategy includes four key strategic objectives and thirteen strategic aims to address critical investment needs and align with core principles of sustainability. It also identifies 35 actions to achieve these objectives and considers the changing landscape in which Uisce Éireann operates.

Uisce Éireann is currently involved in a number of innovative projects, funded by the Water Services Innovation Fund administered by the Commission for Regulation of Utilities and will deliver benefits for our customers, the environment and the economy. These projects include enhancing existing wastewater treatment plants through aerobic granular sludge addition and developing pilot sludge treatment reed beds for use in treating and de-watering water sludge containing aluminium sulphate.

3.12.5 Future Trends

Natural assets/land use

In the EPA "Land Use Review: Fluxes, Scenarios and Capacity Synthesis Report" different scenarios were developed and assessed regarding their capacity to facilitate net-zero GHG emissions from the agriculture, forestry and other land use (AFOLU) sector in Ireland by 2050 [68].

[67] Uisce Éireann. 2026. Draft National Bioresources Strategy. Accessed: July 2026. Available from: Draft National Bioresources Strategy
[68] EPA. 2023. Land Use Review: Fluxes, Scenarios and Capacity Synthesis Report. Accessed: May 2026. Available from: https://www.epa.ie/publications/research/evidence-synthesis-reports/evidence-synthesis-report-4-land-use-review-fluxes-scenarios-and-capacity-synthesis-report.php

The scenarios include large changes in land use at the national level targeted at achieving net-zero emissions. Many of the land use changes required for net-zero emissions identified are not in line with current land use policy targets as follows:

- Afforestation – current policy targets are approximately 8000 ha yr–1. This level is much smaller than the rates compatible with meeting net-zero targets (20,000-35,000 ha yr^{-1}) depending on whether CH_4 is included in the targets;
- Wetlands – the peatland restoration targets outlined in policy documents ranged from 33,000ha for exploited peatlands to 80,000ha for drained organic soils under grasslands. These fall short of the 70,000ha for exploited peatlands and 302,000ha for drained organic soils under grasslands that would be compatible with meeting net-zero targets;
- Agriculture optimisation – improving the efficiency of agricultural production and so lowering the emissions intensity associated per unit of food output is a central target of many actions in the Ag Climatise Plan. Policy analysis did not find any specific targets in relation to reductions in ruminant livestock numbers; and
- Biodiversity – target of allocating 10% of space for nature most closely agrees with key national and EU policies.

Built material assets

The general trend of increasing urbanisation is expected to continue according to NDP Review 2025[135]. Large urban centres and hubs are expected to continue growing in significance as part of regional spatial development. Service efficiencies and the provision of infrastructure will improve and become increasingly sustainable as urban centres continue to grow. However, rural areas also make a strong contribution to the Irish economy and sense of character, so efforts to maintain rural communities are necessary to benefit the wider regions.

Uisce Éireann RBMP Enhanced Ambition Programme is funded by the European Union under Ireland's National Recovery and Resilience Plan. This is a significant investment which will support the objectives of Ireland's RBMPs and improve water quality in rivers. The programme is aimed at ensuring that Uisce Éireann assets are not impacting on the ability of receiving waters to achieve their water quality objectives. The programme involves:

- The upgrade of 10 Wastewater Treatment Plants (WWTPs);
- Completing feasibility studies for 25 WWTPs; and
- Undertaking effluent and water quality assessments to quantify improvements needed at these WWTPs.

The WWTPs selected for inclusion in the programme have all been identified in Ireland's RBMP for Ireland 2022-2027 as causing water quality impacts in the rivers they discharge to.

Waste and the Circular Economy

The Circular Economy and Miscellaneous Provisions Act (2022), underpins Ireland's shift from a 'take-make-waste' linear model to a more sustainable pattern of production and consumption, that retains the value of resources in the economy for as long as possible and that will significantly reduce the nation's greenhouse gas emissions. The 2026 Whole of Government Circular Economy Strategy 2026-2028[69] provides the policy framework for the circular economy in the country and Ireland's National Waste Management Plan for Circular Economy 2024-2030[70], sets out a roadmap that aims to ensure that Ireland not only meets the legal

[69] DCEE. 2026. Whole of Government Circular Economy Strategy 2026-2028. Accessed: May 2026. Available from: https://assets.gov.ie/static/documents/7484ab1d/Circular-Economy_Strategy-2026-2028-en.pdf
[70] Local Government Ireland. 2026. National Waste Management Plan for a Circular Economy 2024-2030. Accessed: May 2026. Available from: https://mywaste.ie/sustainability/circular-living/national-waste-management-plan-for-a-circular-economy-2024-2030/

targets but also takes full advantage of the opportunities of the circular economy. The new legislation and strategies strengthen the approach to addressing waste and implementing circular economy principles. Nevertheless, with a circularity material use rate of 2.3% in 2023, Ireland has significant scope for progress[71] .

The development of circular economy principles will impact all sectors of society and collaboration between stakeholders will be key to this transition in Ireland. Some examples of how the water sector may be changed by the progressive adoption of circular economy principles include:

- Encouraging the efficient use of water, through technologies such as leak detection systems or smart water meters, will reduce water leakage and present new opportunities to manage water use, thereby mitigating some of the impacts on freshwater sources;
- Reusing wastewater in sectors such as agriculture and manufacturing can decrease Ireland's dependence on freshwater sources. There is also potential for re-use for drinking water when treated to the appropriate standards. In addition, rainwater harvesting, and stormwater management can provide alternative sources of water for non-potable use such as toilet flushing or irrigation. Reusing wastewater can also contribute to reducing the impact of flooding and improving water quality;
- Nutrient recovery systems can extract valuable resources from wastewater sludge, for example by converting nutrients to fertilisers or energy. This can contribute to reducing nutrient pollution, potentially reducing treatment requirements for water abstracted from rivers. Sustainable agricultural practices will also support this trend; and
- Minimising use of consumables in the delivery of wastewater services and generating renewable electricity.

Uisce Éireann's draft National Bioresources Strategy places circular economy principles at the core of wastewater sludge management by treating wastewater sludge as a valuable resource rather than a waste product. The strategy seeks to maximise the recovery, reuse and valorisation of nutrients, energy and other resources contained within wastewater sludge, thereby reducing reliance on virgin materials, minimising waste generation and supporting the transition to a circular bioeconomy. Key measures include the recovery of phosphorus and other nutrients, optimisation of biogas and biomethane production through anaerobic digestion, implementation of resource recovery technologies, and the development of advanced thermal conversion technologies capable of producing secondary products such as biochar, bio-oil and renewable energy. The strategy aligns with the waste hierarchy by prioritising waste minimisation, reuse, recycling and resource recovery, while landfill disposal has already been phased out. It also supports compliance with emerging EU circular economy requirements, including increased resource recovery from wastewater streams, and promotes innovation, nature-based solutions and alternative reuse outlets to enhance resource efficiency, climate resilience and long-term sustainability.

There are several challenges to overcome to maximise the opportunities associated with circular economy principles, in particular wastewater reuse. These include public perception, regulatory challenges and market failures linked to the cost of reused[72].

Relevant to these challenges are the limitations on landfill capacity. According to the EPA[66], two of the three operational municipal landfills will approach their maximum lifetime consented capacity by 2027 if additional capacity is not authorised. There is a risk in the event of export markets closing at short notice and the planned contingency landfill capacity needs to be secured without delay. Treating waste as close to its source as possible (the proximity principle) is one of the core pillars of EU waste policy. Waste exports also represent missing valuable opportunities to maximise the beneficial and efficient use of waste materials. By addressing

[71] European Environmental Agency. 2025. Circular material use rate Ireland**.** Accessed: May 2026. Available from: https://www.eea.europa.eu/en/europe-environment-2025/countries/ireland/circular-material-use-rate
[72] EPA 2019. Water Reuse in the Context of the Circular Economy. Accessed May 2026. Available from https://www.epa.ie/publications/research/water/Research_Report_293.pdf

waste infrastructure deficits, Ireland can develop circular economy opportunities and reduce the emissions associated with transporting waste over long distances.

3.12.1 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities in relation to the material assets topic are:

Challenges

- Wastewater sludge management at Small WWTPs will need to align objectives set out in the emerging National Bioresources Strategy Resilience of infrastructure and operations – Uisce Éireann's asset base will have to cope with the various impacts of climate change, and support growth.

Opportunities

- Land use and habitat type are the basis for natural capital and ecosystem services with links across topics including biodiversity, carbon, water, food production, fisheries and recreational uses;
- Waste management and potential to contribute to the circular economy - promoting sustainable waste disposal and minimising release of industry pollutants into water sources can benefit the environment, reduce carbon and reduce treatment costs; and
- Awareness of the impacts of sewer misuse can also lead to customer action (for example, not flushing wet wipes).

3.13 Landscape, Townscape and Seascape

3.13.1 Landscape Baseline Condition

Landscapes reflect many variables, including underlying geology, soils, topography, land cover including habitats and agricultural, forestry and urban land, hydrology, historic and cultural development, and climate. These physical and socio-economic influences, and interrelationships, makes one landscape different from another. Landscape character is the distinct and recognisable pattern of elements, or characteristics, in the landscape that make these differences. Landscape features such as hedgerows field boundaries, woodlands, riparian corridors, canals and wetlands are part of landscape character and are also important as ecological corridors providing connectivity but can be especially vulnerable to linear infrastructure development.

The European Landscape Convention (ELC) is the first international treaty to focus solely on landscape. The Convention promotes the protection, management and planning of European landscapes. The Irish Government ratified the Convention in 2002. The National Landscape Strategy 2015-2025[73] was put in place to drive compliance with the European Landscape Convention by establishing principles that provide the high-level policy framework to achieve the Convention's objectives.

There is currently no published national level landscape mapping for Ireland. There is also no national classification system for Landscape Character Areas (LCAs), as these are geographically specific and have their own distinctive character based on their location and surrounding environment. However, the National Planning Framework (NPF) committed to developing guidance on local landscape character assessments (including historic landscape characterisation), to provide for a more consistent landscape character assessment approach across administrative boundaries. The Marine Institute has also developed a Seascape

[73] DAHG. 2021. National Landscape Strategy for Ireland 2015-2025. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/8a59b-national-landscape-strategy/

Character Assessment. Regionally, the regional spatial and economic strategies will help coordinate local authority landscape character assessments.

In accordance with the Planning and Development Act 2000 (as amended), all local authorities need to identify LCAs within their Development Plans to ensure that defining features are protected and managed. Although some local authorities have yet to formally document LCAs, many have incorporated landscape designation into their Development Plans. For example, in the form of protected views, prospects, landscape conservation areas and scenic routes. Similar to the LCAs, there is no national standardised approach for designating these landscape features/sites.

The landscape of Ireland is varied with a mix of lowland and upland, rivers, lakes and shores. The majority of uplands in Ireland are close to the coast. There are 45 peaks which exceed 750 m and which are within 56 km from the coast. However, most of the landmass of Ireland, particularly the centre, is low-lying land. Less than 5% of the total landmass lies above 500 m and over 80% is below 200 m.

According to the NPWS (n.d)[74] there are seven National Parks in Ireland, six of which are located on the western coast. National Parks can be designated for a range of reasons, one of which is containing natural landscapes of great beauty. The six National Parks are:

- Ballycroy – 11,000 hectares of Atlantic blanket bog and mountainous, unspoilt wilderness;
- The Burren – a rocky limestone outcrop and grassland covering 1,500 hectares;
- Connemara – 3,000 hectares of scenic mountains, expanses of bogs, heaths, grasslands and woodlands;
- Glenveagh – an area of wilderness and forest in the Derryveagh Mountains, encompassing 16,000 hectares;
- Killarney – a 10,000-hectare expanse of rugged mountainous country, including lakes, woods and Ireland's highest mountain range
- Wicklow Mountains – a mountain range extending across 20,000 hectares of County Wicklow on the eastern coast of Ireland; and
- Wild Nephrin –15,000 hectares covering the Nephrin Beg mountain range and Owenduff Bog, alongside areas of alpine heath, upland grassland, heath, lakes and river catchments.

There are also Areas of Special Amenity which are designated according to their outstanding natural beauty for special recreational value. These sites include the Liffey Valley, North Bull Island and Howth Head. More broadly, areas which can be most sensitive to visual impacts include:

- Lands with an elevation of >200 m;
- Forestry areas;
- Lands with a slope of >30 Degrees;
- Open landscapes like lakes and estuaries; and
- Other natural land cover types.

3.13.2 Future Trends

The National Landscape Strategy 2015-2025 is in the process of being implemented and will be Ireland's vehicle for complying with the EU Landscape Convention. Landscape assessment guidance is also available from the local authorities which will be considered when identifying landscape character areas and protected areas at the project level in the future.

[74] NPWS. n.d. National Parks. Accessed May 2026. Available from: National Parks of Ireland - Where Nature Speaks

In the medium to long term climate change, land use, agricultural and forestry policy are likely to influence landscape. Afforestation has been one of the key trends related to landscape/land cover in Ireland over recent decades. The Forest Statistics Ireland report[75] indicates that there was an increase of 4.2% in the national area covered by forestry from the years 1985 to 2006, and a further1.5% increase from 2006 to 2022.

The existing landscape character is not expected to change significantly in the immediate future, although, some local changes due to planned developments are potential sources of change and loss of landscape feature. Longer term influences on landscape character would be related to land use changes such as agricultural and forestry practices, and climate change responses and their impacts on habitats and landscape features.

3.13.3 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities in relation to Landscape, Townscape and Seascape are:

Challenges

- Potential for new Uisce Éireann infrastructure and systems to impact landscape, townscapes and seascapes including visual amenity during construction and operation; and
- Potential for the new Uisce Éireann infrastructure and systems development to be constrained by the need to protect the landscape character and local visual amenity in sensitive areas.

Opportunities

- Opportunities for enhancements through use of nature-based solutions.

3.14 Cultural Heritage – Archaeological and Architectural

3.14.1 Cultural Heritage

UNESCO World Heritage Sites

World Heritage Sites are places, monuments or buildings selected by the UNESCO as having outstanding universal value and meet at least 1 out of 10 selection criteria. The World Heritage Convention, which was established in 1972 by UNESCO, initiated a list of World Heritage Sites.

Record of Monuments and Places

The Record of Monuments and Places (RMP) is the statutory list of recorded monuments. Monuments listed in the RMP are afforded legal protection under the National Monuments Act 1930-2004 and any work taking place at or in relation to a Recorded Monument will typically need to be notified to the Minister.

The National Monuments Act 1930-2004 was enacted to make provision for the protection and preservation of national monuments and archaeological objects and provides for the protection of monuments and archaeological sites, the protection of the portable archaeological heritage and the regulation of archaeological works. The Historic Archaeological and Heritage Bill 2023 will replace the National Monuments Act and will represent a significant modernisation of the law protecting Ireland archaeological and historic heritage.

National Inventory of Architectural Heritage

The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 was enacted to provide for the establishment of a National Inventory of Architectural Heritage (NIAH) and to

[75] DAFM. 2023. Forest Statistics Ireland 2020. Accessed: May 2026. Available from: Ireland's Forests - Annual Statistics 2019

provide for the obligations of statutory authorities in respect of these historic monuments. In this Act "architectural heritage" means all structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of such structures and buildings; and sites which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

Each structure is given a rating: National, Regional, Local or Record Only. Any structure rated as being Regional or higher importance will be recommended to have a separate record under the Record of Protected Structures (RPS).

Record of Protected Structures

The Planning and Development Act 2000 (as amended) requires each planning authority to compile and maintain a RPS that forms part of each planning authority development plan. The purpose of the RPS is to protect structures, or parts of structures "which form part of the architectural heritage, and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest." Sites, structures and groups of structures rated by the NIAH as being of Regional or above importance are included in the RPS which provides statutory protection for Ireland's architectural heritage.

While the prime objective of the RPS is to protect the structure and its setting, proposals for the sensitive restoration, extension and alteration of Protected Structures are positively encouraged by the Planning Authority.

Sites and Monuments Record

The Sites and Monuments Record (SMR) appears on the Archaeological Survey of Ireland Map Viewer, however it does not, of itself confer legal protection. Not all of these are included in the RMP and hence have no statutory protection.

The designations considered as part of the cultural heritage baseline are:

- Archaeological sites monuments included on the RMPs and/or SMRs; and
- Architectural structures and sites included on the NIAH and/or RPSs.

Irish Landmark Trust sites

The Irish Landmark Trust have been saving and restoring some of Ireland's historic buildings since 1992 and making them accessible to the wider community. As an educational non-profit organisation, the organisation's primary aim is to conserve and sustain iconic buildings.

Underwater Archaeological Heritage

The National Monuments Service (NMS) is also tasked with addressing the protection and preservation of Ireland's underwater cultural heritage. The Underwater Archaeology Unit of the National Monuments Service has a wide remit, including quantification of the record, research, underwater survey, excavation and regulation. The Underwater Archaeology Unit maintains the Wreck Viewer and Wreck Inventory of Ireland Database and also assesses potential development impacts on underwater archaeology by making recommendations to the relevant planning authorities and other regulatory bodies on developments which have the potential to impact on underwater archaeology.

Unknown Archaeological Remains

The NMS has an interactive mapping search facility that provides access to all records relevant to the archaeological heritage of Ireland. This extensive body of records is stored on the national database of the Archaeological Survey of Ireland, and a list of recorded archaeological monuments for each county is available at www.archaeology.ie based on OSI mapping.

3.14.2 Cultural Heritage Baseline Condition

There are two UNESCO World Heritage Site and four UNESCO Sites on the new Tentative List that are located within Ireland (UNESCO, 2025[76]). There are also 33 Irish Landmark Trust sites (Irish Landmark Trust, 2023[77]), as well as numerous designated and non-designated cultural heritage assets inventoried in the RMP, the SMR, the Wreck Inventory Database, the RPS, and the NIAH. In total there are 151,308 SMR sites (DHLGH, 2025[78]), 3,118 sites recorded on the Wrecks Inventory Database (Department of Climate, Energy and the Environment (DCEE, 2024[79]) and 48,327 sites recorded on the NIAH (DCHLG, 2025[80]). See also section 3.9.4 for Tourism and Recreation baseline as cultural heritage is also important for visitors and the local economy.

Table 3-15 shows the number of cultural heritage sites in each county for the SMR and the NIAH. Given the number of small sites across Ireland, these are best viewed on the Department of Culture, Heritage and the Gaeltacht's 'Historic Environment Viewer' website. There are also several undesignated heritage assets within the marine area surrounding the country and potentially unknown, undesignated archaeological and architectural remains, throughout Ireland.

Table 3-15 Cultural Heritage Sites in Ireland

County	Sites and Monuments Record	National Inventory of Architectural Heritage
Carlow	1940	291
Cavan	2475	770
Clare	9019	450
Cork	19153	8467
Donegal	3647	2289
Dublin	4224	7535
Galway	12511	1963
Kerry	13762	859
Kildare	3086	1581
Kilkenny	5555	1917
Laois	2216	692
Leitrim	2305	391
Limerick	8396	2192
Longford	2659	842
Louth	2461	1347
Mayo	8864	1470
Meath	4921	1132
Monaghan	1626	1257
Offaly	4879	1196
Roscommon	6597	402
Sligo	6679	803

[76] Tentative Lists .2025. UNESCO World Heritage Convention. Accessed May 2026. Available from: https://whc.unesco.org/en/tentativelists/?action=listtentative&state=ie&order=states
[77] Irish Landmark Trust. 2026. Ireland. Accessed May 2026. Available from: https://irishlandmark.com/
[78] DCHLG .2025. National Monuments Service – Archaeological Survey of Ireland. Accessed May 2026. Available from: National Monuments Service - Archaeological Survey of Ireland - Dataset - data.gov.ie
[79] DCEE .2024. Ship Wrecks in Irish Waters – Recorded Year of Loss. Accessed May 2026. Available from: Ship Wrecks in Irish Waters - Recorded Year of Loss - Dataset - data.gov.ie
[80] DCHLG .2025. National Inventory of Architectural Heritage (NIAH) National Dataset. Accessed May 2026. Available from: National Inventory of Architectural Heritage (NIAH) National Dataset - Dataset - data.gov.ie

County	Sites and Monuments Record	National Inventory of Architectural Heritage
Tipperary	9258	2031
Waterford	3468	2698
Westmeath	4540	1617
Wexford	3978	2842
Wicklow	3089	1293

Figure 3-19 below shows World Heritage Sites, key tourist sites, and monuments in Ireland.

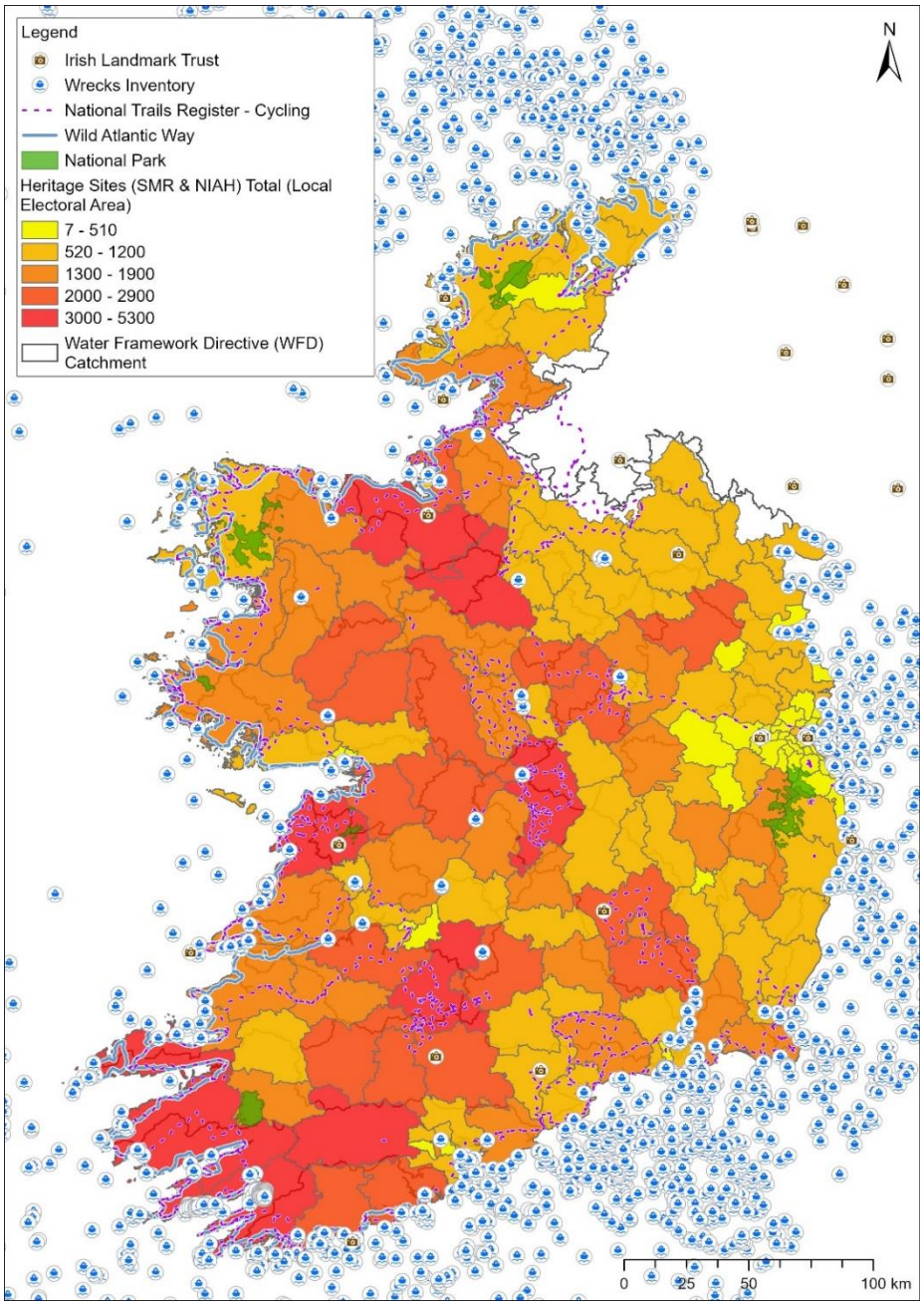

Figure 3-19 Cultural Heritage, Recreation and Tourism Sites in Ireland[77,78,79,80,80,81,82,83,84,85,86,87,88]

3.14.3 Future Trends

The National Heritage Plan, Heritage Ireland 2030, was published in 2022. This plan sets out a wide range of actions aimed at protecting and nurturing Ireland's heritage and recognising the importance of community

engagement and the links to biodiversity and climate change. An Implementation Plan for the actions is to be developed. The Historic Archaeological and Heritage Bill 2023, replacing the National Monuments Act, will introduce a single integrated licensing system and statutory codes of practice, and will confer legal protection on new finds at archaeological sites. These forthcoming changes to cultural heritage legislation and policy strengthen the protection of designated cultural, archaeological and architectural heritage assets and as well as undesignated archaeological. There are recognised threats to heritage assets from development activities affecting settings or resulting in loss of buried unknown assets. Climate change and habitat loss can also affect the preservation of buried archaeological remains.

3.14.4 Key Considerations for the Small WWTP National Plan and the SEA

The key challenges and opportunities in relation to Cultural Heritage for the Plan and SEA are:

Challenges

- The potential for the construction of wastewater treatment infrastructure to damage archaeological and architectural heritage monuments/site or affect access to or the settings of sites/monuments; and
- The potential for new structures to impact the setting of heritage sites/monuments.

Opportunities

- Opportunities for linking protecting heritage with supporting biodiversity and climate change objectives; and
- Potential to uncover (and damage) unknown, undesignated archaeological remains, including underwater archaeology, but also potential to record and add to knowledge and improve access to cultural heritage and archaeology.

3.15 Geology and Soils

3.15.1 Geology Baseline Condition

According to the Soil Geochemical Atlas of Ireland (2007)[81], the counties of Cavan and Monaghan are mainly underlain by Lower Palaeozoic shales, grits and greywackes. The Southeast of Ireland including counties such as Carlow, Kilkenny and Waterford consist predominantly of Lower Palaeozoic sedimentary and igneous rocks (rhyolites, andesites and greywackes). Towards the centre of Ireland, the predominant bedrock geology are carboniferous limestones, which vary from very pure to impure shaley varieties in the central counties of Offaly, Westmeath and Laois. Towards the southern counties of Kerry and Cork the underlying geology is composed of Old Red Sandstone. North of these, in northern Kerry, western Limerick and western Clare there are a series of Upper Carboniferous sediments, mainly shales and grits, sitting on top of comparatively pure limestones. The bedrock geology in the western counties of Ireland such as Galway and Mayo comprise of granite in the south and Lower Palaeozoic and late Pre-Cambrian metamorphic rocks north of this. In the North, most of county Donegal is underlain by a complex series of rocks comprising schists (metamorphosed from mudstones and muddy sandstones), and quartzites. Figure 3-20 presents the bedrock geology, with the corresponding legend provided in Appendix D.

[81] Teagasc. 2007. Soil Geochemical Atlas of Ireland. Accessed May 2026. Available from https://www.teagasc.ie/media/website/publications/2011/Soil_Geochemical_AtlasofIreland.pdf

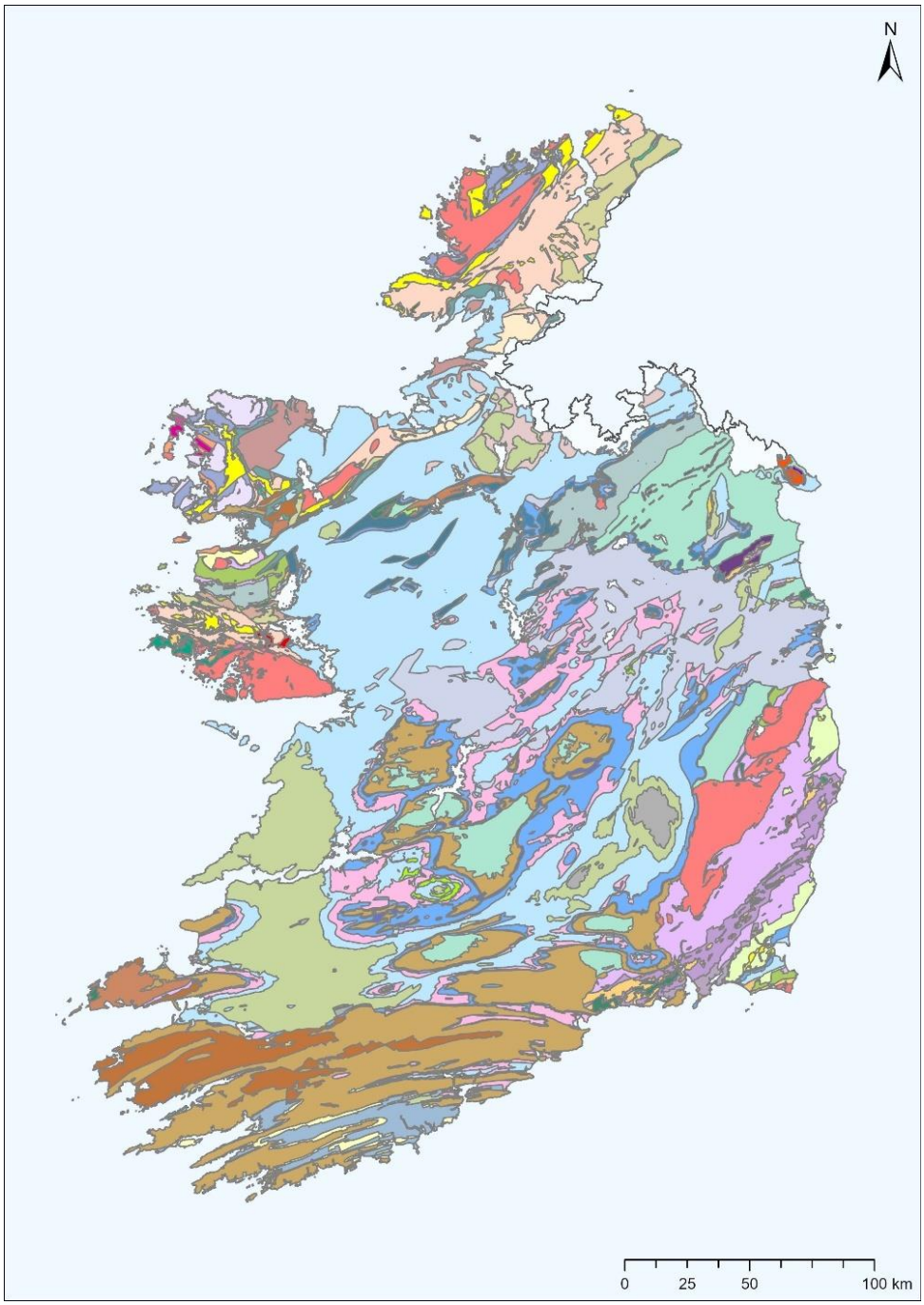

Figure 3-20 Bedrock Geology in Ireland (GSI)[82]

The Superficial deposits comprise the unconsolidated geological deposits which cover the solid geology. Thickness of these deposits are variable. Generally, towards the southern counties the bedrock is overlain with boulder clay deposited during the last glaciation in the Pleistocene period. Towards the western coastline of Ireland raised bogs and blanket bogs are present as a result of the gradual increase in temperature.

In Ireland there are four UNESCO Geoparks, Copper Coast in Co. Waterford, Burren and Cliffs of Moher in Co. Clare, Cuilcagh Lakelands in Cavan and Fermanagh, Joyce Country and Western Lakes in counties Galway and Mayo. Geological Survey Ireland is a partner in all four Geoparks in the Republic of Ireland and provides

[82] GSI. 2026. Bedrock data and maps. Accessed: May 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/Pages/Bedrock.aspx#500k

support and encouragement in the promotion of geoheritage and earth science education, and protection of Geosites within the Geoparks. Figure 3-21 presents the UNESCO Geoparks in Ireland.

The Geological Survey of Ireland (GSI) have identified Irish Geological Heritage (IGH) Sites as part of their IGH Programme, a partnership between GSI and the NPWS. IGH sites comprise caves, dry valleys, springs and swallow holes. The number of IGH sites within or intersecting each county, along with the mineral location sites and active quarries are shown in Table 3-16. Figure 3-21 presents geological heritage in Ireland.

Table 3-16 Irish Geological Heritage sites, mineral location sites and active quarries[83]

County	Number of IGH sites	Numbers of Mineral Location Sites	Number of active quarries
Carlow	6	109	2
Cavan	27	153	5
Clare	45	335	16
Cork	89	722	25
Donegal	101	787	6
Dublin	22	Data not available	5
Galway	134	1,089	20
Kerry	Data not available	268	22
Kildare	22	Data not available	7
Kilkenny	26	165	5
Laois	33	157	Data not available
Leitrim	32	131	3
Limerick	30	185	12
Longford	15	72	4
Louth	33	96	2
Mayo	101	570	8
Meath	28	Data not available	20
Monaghan	20	153	2
Offaly	28	118	13
Roscommon	29	207	6
Sligo	25	121	3
Tipperary	69	381	15
Waterford	47	188	2
Westmeath	28	109	6
Wexford	42	368	13
Wicklow	64	Data not available	7

Note: County Kerry has not been audited for geological heritage sites and information from the Geological Survey Ireland is currently not available. County Laois has not been audited for the number of active quarries and information from the Geological Survey Ireland is currently not available.

[83] GSI. 2023. Geological Heritage. Accessed: May 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/Pages/Geoheritage.aspx#County

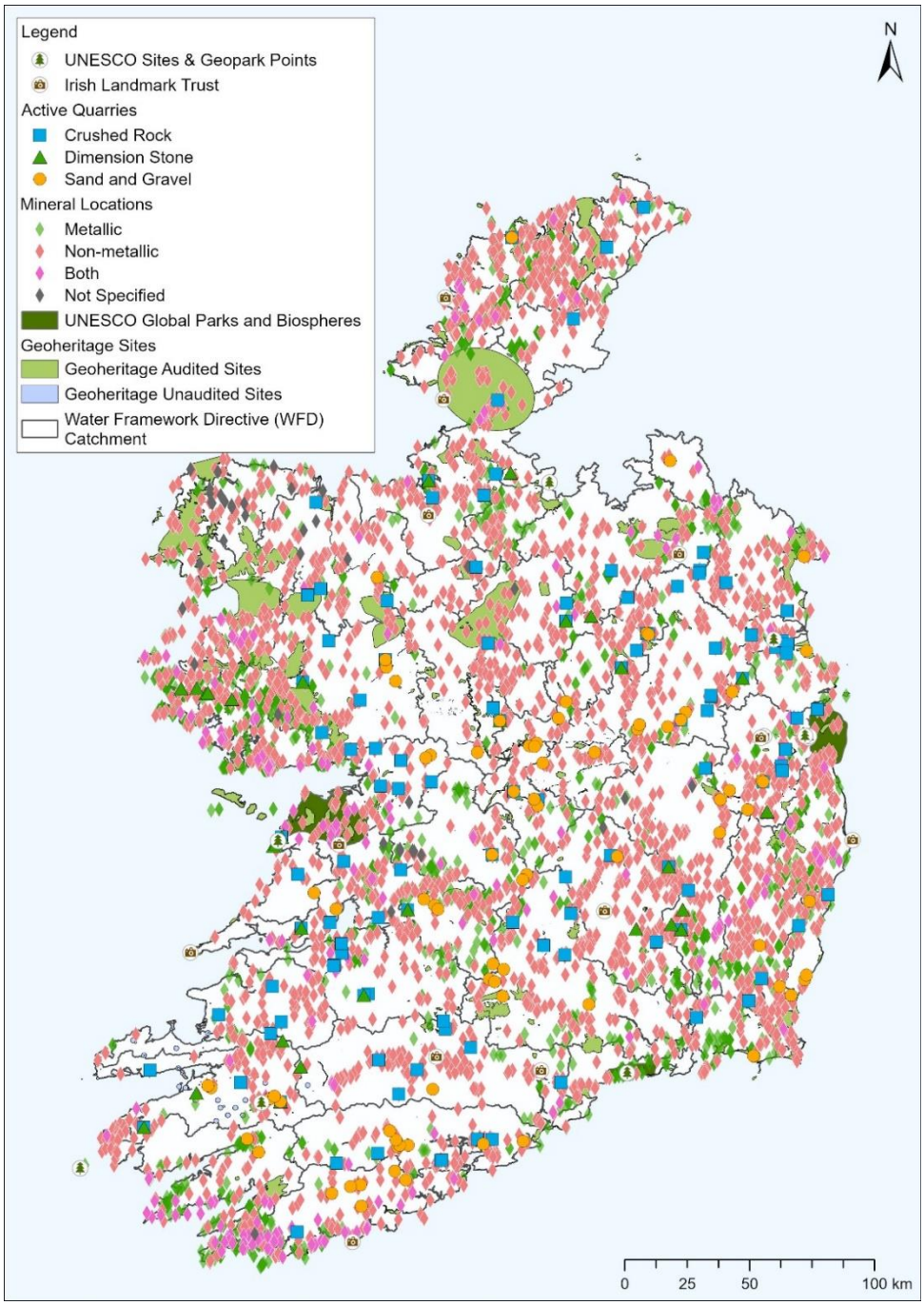

Figure 3-21 Geological Heritage in Ireland[83,84,85,86,87]

Hydrogeology

Hydrogeology in Ireland is strongly influenced by the country's geology, glacial history, and high rainfall. Groundwater is an important resource for drinking water, agriculture, industry, and maintaining river flows

[84] GSI. n.d. Geoheritage Audited & Unaudited Sites. Accessed: June 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/Pages/Geoheritage.aspx
[85] GSI. n.d. Mineral Locations. Accessed: June 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/Pages/Minerals.aspx#MinLocs
[86] GSI. n.d. Active Quarries. Accessed: June 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/Pages/Minerals.aspx#Quarry2014
[87] Heritage Council. n.d. UNESCO Site & Geopark Points. Accessed: June 2026. Available from: https://data.gov.ie/dataset/eee67c82-3cc3-44f2-8f56-f0ad5c269233/resource/720c184a-2218-41db-873b-6caaea0b066c

and wetland ecosystems[88]. Geological Survey Ireland (GSI) classifies aquifers according to their ability to provide water supplies:

- Regionally Important Aquifers – capable of supporting large public supplies and major towns.
- Locally Important Aquifers – suitable for smaller public supplies and group water schemes.
- Poor Aquifers – generally support only small domestic or farm supplies.

Ireland faces several important hydrogeological challenges, many of which are linked to the nature of its aquifers and changing environmental pressures. One of the most significant challenges is the protection of karst aquifers, particularly those developed within the country's extensive limestone bedrock. These aquifers are highly vulnerable to contamination because groundwater can travel rapidly through enlarged fractures, conduits, and caves with limited natural filtration. Ireland also experiences groundwater flooding, especially in karst regions such as Counties Roscommon, Galway, and Clare, where complex groundwater flow systems can lead to prolonged and widespread flood events. In addition, there is an increased focus on understanding how climate change may affect groundwater recharge, water availability, and drought resilience, as shifts in rainfall patterns and extreme weather events may alter recharge rates and groundwater storage[89].

3.15.2 Soil Baseline Condition

There is relatively little legislation relating directly to soil and soil protection at an international level and there is no legislation solely directed to soil protection in Ireland. However, the key driver for future policy is the EU Soil Strategy for 2030[136] which was published in 2021. This sets out the aim for EU soils to be in a healthy condition by 2050. Soils are defined in this strategy as:

"when they are in good chemical, biological and physical condition, and thus able to continuously provide as many of the following ecosystem services as possible:

- Provide food and biomass production, including in agriculture and forestry;
- Absorb, store and filter water and transform nutrients and substances, thus protecting groundwater [and surface water] bodies;
- Provide the basis for life and biodiversity, including habitats, species and genes;
- Act as a carbon reservoir;
- Provide a physical platform and cultural services for humans and their activities;
- Act as a source of raw materials; and
- Constitute an archive of geological, geomorphological and archaeological heritage".

Figure 3-22 below shows the distribution of soil types in Ireland.

[88] EPA. n.d. Groundwater. Accessed: July 2026. Available from: https://www.epa.ie/our-services/monitoring--assessment/freshwater--marine/groundwater/

[89] GSI. n.d. Groundwater. Accessed: July 2026. Available from: https://www.gsi.ie/en-ie/data-and-maps/pages/groundwater.aspx

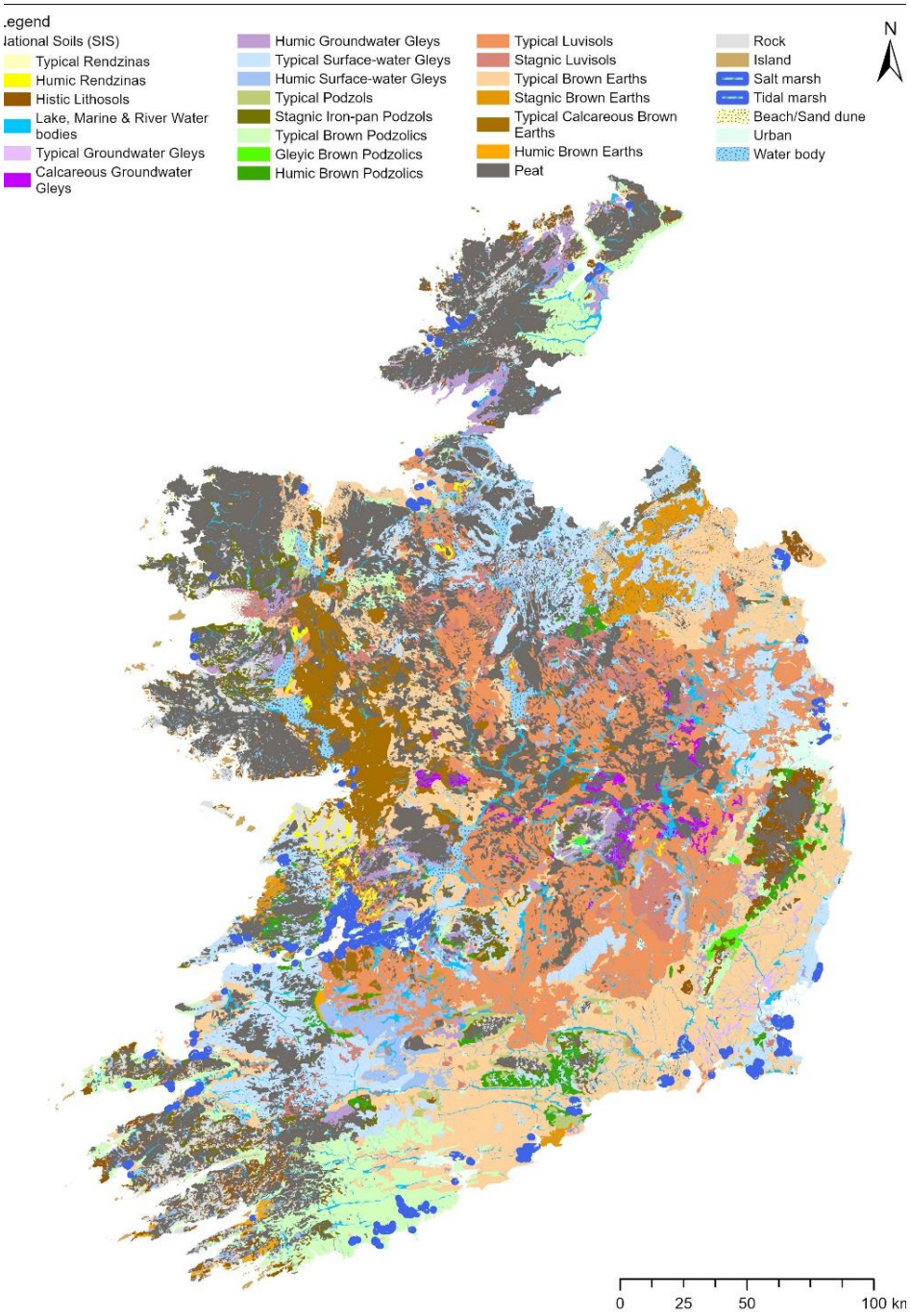

Figure 3-22 Soil types in Ireland[90]

Soil quality or contamination

The EPA highlights six key degradation processes that can impact on soils: soil sealing, erosion, organic matter decline, compaction, salination and landslides. Surface sealing (urbanisation) is the main soil quality pressures for Ireland with human activity also being a significant driver of degradation through poor (or inappropriate) land management practices.

Soil contamination can occur as a result of unauthorised waste-related activities, historical activities, leakages and accidental spillages of chemicals. The EPA is responsible for enforcing the remediation of contamination identified at EPA-licensed facilities but there is currently no specific contaminated land policy or legislation in Ireland.

[90] EPA. n.d. SIS National Soils. Accessed: June 2026. Available from: https://gis.epa.ie/GetData/Download

Soil and the circular economy

Soil plays a key role in recycling water, carbon and nutrients, and can break down and filter pollutants as well as providing raw material resource. The EU Soil Strategy 2030 proposes a land take hierarchy placing emphasis on aiming to avoid loss of soil resources and promote development of healthy soils.

3.15.3 Future Trends

Changes in geology are generally considered to happen over very long timescales. However, changes affecting soils due to water regime, climate change, land use practices influence soil carbon, nutrients levels and erosion rates and are relevant within the timescale for the Plan.

Soils and ecosystems services they support are resources that need to be protected, monitored and managed, from high-level national and sectoral land use plans through to local management activities on farms, forest plantations, peatlands, urban and rural settlements. In the absence of European and national soil legislation, the challenge remains to ensure a consistent approach to protecting and managing the limited soil resource, in the context of supporting environmentally sustainable economic and population growth. The EU Soil Strategy to 2030 which is closely linked to the EU Biodiversity Strategy and a proposed EU Nature Restoration Law, sets out actions to support achieving it overarching long term aims which should also influence future national policy related to soils.

Since the National Peatlands Strategy was first published, climate change has been recognised as a key social, economic and environmental issue has brought new impetus to the need to preserve remaining functional peatlands and to accelerate the restoration of damaged peatlands to support biodiversity, provide valuable ecosystem services and act as carbon sinks.

3.15.4 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities in relation to geology and soils potentially relevant for the Plan and the SEA are:

Challenges

- Land take with a loss of soil resources from construction works on water/wastewater services infrastructure;
- Soil management and health affecting how water and nutrients are retained in soil and susceptibility to erosion with loss of soil and high levels sediment and nutrients in run off entering water bodies;
- Potential impact on geological resources and protected sites from construction works; and
- Effects on soil quality, beneficial and negative, from sludge spreading and potential for water body pollution –WWTP treatment proposals will need to consider how these align with sludge management requirements being developed through our National Bioresources Strategy.

Opportunities

- Opportunities for peatland restoration including peat rewetting initiatives, catchment-based soil conservation initiatives and wetland enhancements/creation. These approaches can support water quality and soil health and provide other ecosystem benefits such as carbon sequestration and support biodiversity enhancement; and
- Opportunities to use soil management plans to apply hierarchy to avoid loss and promote reuse and maintain soil health.

3.16 Air Quality

3.16.1 Air Quality Baseline Condition

Air pollution is a major environmental risk to our health. According to the World Health Organisation (WHO), air pollution can increase the risk of stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. It is estimated that there are approximately 1,700 premature deaths annually in Ireland[91] due to poor air quality from fine particulate matter ($PM^{2.5}$).

Under the EU's Green Deal's Zero Pollution Action Plan[92], the European Commission set the 2030 goal of reducing the number of premature deaths caused by fine particulate matter ($PM^{2.5}$, a key air pollutant), by at least 55% compared with 2005 levels. To this end, in 2022 the European Commission published a proposal to review the ambient air quality directives, aiming, among other things, to align the air quality standards more closely with WHO recommendations.

Air quality in Ireland is generally good, however, there are concerning localised issues. For example, air quality monitoring results in 2024 showed that fine particulate matter ($PM^{2.5}$) mainly from burning solid fuel in homes, and nitrogen dioxide (NO_2) mainly from road transport, are the main threats to good air quality. EPA monitoring shows that $PM^{2.5}$ and NO_2 levels in 2024 were within EU legal limits but did exceed the WHO Air Quality guidelines (AQGs) for health and are falling behind on targets set in Ireland's Clean Air Strategy for 2026.

In 2024 the EU has published a new CAFÉ (Ambient Air Quality and Cleaner Air for Europe) Directive[93] that establishes objectives on how to assess ambient air quality in order to reduce, prevent and avoid harmful effects on our health and on the environment with the following key points:

- The revised EU Ambient Air Quality Directive entered into force on 20 December 2024;
- It is required to be transposed into Irish legislation by the 11 December 2026;
- It aims to gradually align EU air quality standards with WHO health-based guidelines;
- New and updated air quality standards must be met by 1 January 2030 to reduce premature deaths; and
- The directive is a key step toward achieving zero pollution in the EU by 2050.

The revised EU Ambient Air Quality Directive air quality standards compared to the original CAFÉ and the WHO guideline are presented in Table 3-17.

Table 3-17 EU air quality standards

Pollutant	Period	Until 2026 (Current CAFÉ) (µg)	As of 2026 (µg)	As of 2030 (New CAFÉ) (µg)	As of 2040 (WHO Guideline) (µg)
PM10	calendar year	40	30	20	15
PM2.5	calendar year	25	15	10	5
NO2	calendar year	40	20	20	10
Ozone(O3)	8 hours daily[94]	120	120	120	100

[91] EPA .2025. Air Quality in Ireland Report 2024. Accessed: May 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/air/EPA-Air-Quality-in-Ireland-Report-2024-FLAT.pdf

[92] European Commission. 2021. Zero pollution action plan. Accessed: May 2026. Available from: https://environment.ec.europa.eu/strategy/zero-pollution-action-plan_en

[93] European Parliament and the Council. 2024.Ambient Air Quality and Cleaner Air for Europe Directive (EU) 2024/2881. Accessed: May 2026. Available from: https://eur-lex.europa.eu/eli/dir/2024/2881/oj/eng

[94] Maximum daily 8-hour mean averaged over 3 years

Pollutant	Period	Until 2026 (Current CAFÉ) (µg)	As of 2026 (µg)	As of 2030 (New CAFÉ) (µg)	As of 2040 (WHO Guideline) (µg)
Sulphur dioxide (SO2)	24 hours[95]	124	50	50	40

The air quality monitoring network comprised of 115 operational stations at the end of 2024 and the EPA is currently developing the National Emissions Monitoring Network, a requirement under the NECD (National Emission reduction Commitments Directive[96]). The Network's goal is to monitor certain air pollutants (such as ammonia) and their impacts on sensitive ecosystems.

Table 3-18 shows Ireland's level of compliance with the legal limits for selected pollutants in 2024.

Table 3-18 Selected Pollutants Measured in 2024 and their Adherence to EU Legal Limit Values (CAFE Directive)

Pollutant	Number of stations,parameter monitored in 2024	Compliance with EU limit values
PM_{10}	107	No exceedance
$PM_{2.5}$	103	No exceedance
NO_2	37	No exceedance
Ozone (O_3)	23	No exceedance
Sulphur dioxide (SO_2)	15	No exceedance
PAHs	5	No exceedance
Heavy metals	5	No exceedance
Dioxins	22	No exceedance

Under the Clean Air for Europe Directive, EU member states must designate "Zones" for the purpose of managing air quality. For Ireland, four zones were defined in the Air Quality Standards Regulations (2011).

According to the EPA, the main areas defined in each zone are:

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

In general, the water industry is not a major contributor to air quality issues, although there is potential for contribution to local air pollution through Uisce Éireann's vehicles, generator plants and drinking water residuals treatment facilities. At the local level there is the potential for odour nuisance as a result of nearby wastewater treatment facilities. This will need to be considered further at the project level. There is a

[95] Exceedance if more than 3 days per year per station

[96] European Parliament and the Council. 2016. Directive (EU) 2016/228 on the reduction of national emissions of certain atmospheric pollutants. Accessed: May 2026. Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.344.01.0001.01.ENG&toc=OJ:L:2016:344:TOC

requirement to comply with air pollution regulations and also identify potential opportunities for reducing emissions.

3.16.2 Future Trends

Europe as part of the European Union's (EU) Green Deal and the EU's zero pollution visions for 2050 is revising its air quality standards to align them more closely with the lower WHO recommendations.

WHO published new AQGs in 2021 based on the impact of pollutants on our health. There are 4 Interim Targets (IT) identified (IT1, IT2, IT3, IT4) towards achieving the final AQG levels. Achieving the WHO Air Quality Guidelines in the future will be a major challenge for Ireland and all of Europe.

Current air quality in Ireland is of an acceptable standard and remains within the European Union (EU) legislative and target values. However, ozone, particulate matter and Polycyclic Aromatic Hydrocarbons (PAHs) are emerging as pollutants of concern in the short term, when compared with WHO guidelines and European Economic Area reference level values. Levels of Nitrogen Oxide (NO) are also expected to increase.

Although air quality in Ireland is good, there is potential for emerging pollutants to rise above limits/targets in the future. Vehicle emissions are one of the main sources of air pollution in Ireland, along with electricity generation, industry and agriculture.

LIFE Emerald[97] is a four-year EU – Irish government funded forecasting and modelling project which started in 2021. It will allow the public to make more informed health related decisions on a daily basis with the help of a 3-day air quality forecast, and near-real time and historical air quality maps for the entire country.

The GLOBE Programme is an international science and education programme that provides school students with the opportunity to participate in citizen science. The GLOBE Ireland Air Quality Campaign is a citizen science campaign to assess traffic-related air pollution at schools, involving over 600 teachers/students throughout Ireland.

Clean Air Together (CAT) is a citizen science project where people voluntarily measure levels of Nitrogen Dioxide (NO_2) in their local area. This is done to create a better understanding of NO_2 air pollution. The first measurement campaign took place in 2021 with 1,000 citizens across Dublin participating. Clean Air Together has moved to Cork in 2022. Clean Air Together moved to Limerick city in 2024 with 400 citizens, businesses and community groups signing up to measure levels of the traffic-related air pollutant, nitrogen dioxide (NO2), in their local area, and in its fifth city, Waterford City, on the 25th August 2025.

3.16.3 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities in relation to air quality potentially relevant for the Plan and the SEA are:

Challenges

- The temporary generation of air pollution such as during construction and operational phases of wastewater infrastructure development, although it should be noted that upgrades to existing infrastructure and the provision of new services are likely to present an opportunity to utilise technologies that are more energy efficient.

Opportunities

- Odour can be a concern from wastewater treatment. New facility design or upgrades to wastewater treatment will need to take account of standards required in relation to receptors around plants.

[97] EPA .2021. LIFE Emerald. Accessed: May 2026. Available from: https://www.epa.ie/environment-and-you/air/life-emerald/

In the context of the development of the Plan, the challenges and opportunities related to air quality are considered localised issues addressed through application of appropriate standards but odour has been taken forward as an aspect for consideration for the Plan.

3.17 Noise and Vibration

3.17.1 Noise and Vibration Baseline Condition

According to the WHO, noise is defined as unwanted sound and can be harmful to human and ecosystem health. The Noise Directive (2002/49/EC)[98], which is referred to as the Environmental Noise Directive relating to the assessment and management of environmental noise, was transposed into Irish national legislation via the Environmental Noise Regulations 2006 (S.I. No. 140 of 2006[99]). This Directive called for the development of strategic noise maps and action plans for major roads, railways, airports and cities.

The Directive defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. The Directive does not set any limit value and does not prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities. Limit values are left to each member state. Ireland does not yet have any statutory noise limit values.

The relevant planning authorities are required to prepare noise action plans designed as a means of managing land use planning, traffic management and control of noise sources. This has yet to be completed, but the EPA has now published guidance for local authorities on the content of the plans.

Wastewater infrastructure development is not expected to add significantly to noise pollution but construction noise can have adverse effects on terrestrial and marine environments and therefore it will be considered through scheme construction management and design for local receptors and during operation for sensitive receptors in close proximity.

3.17.2 Future Trends

Future noise trends are difficult to predict. The Environmental Noise Regulations 2006 may be revised in future to enforce a stricter level of noise management, and further strategic noise maps and plans are to be developed.

The EPA has commissioned a three-year research project Noise and Health Evidence from Ireland that will provide a detailed review of the relationship between environmental noise and health/wellbeing. This research will provide a national estimate of the burden of disease from environmental noise in disability-adjusted-life-years (DALYs). It is led by University College Dublin and the Economic and Social Research Institute (ESRI). The aim is to combine noise modelling and health data to examine contributory relationships between noise exposure and health/wellbeing outcomes.

3.17.3 Key Considerations for the Small WWTP National Plan and the SEA

The key challenges and opportunities in relation to noise and vibration potentially relevant to the Plan and SEA are:

Challenges

- Generation of noise from the construction and operation of wastewater treatment and related to the use of plant and HGV movements.

[98]European Parliament and the Council. 2002. The Noise Directive (2002/49/EC). Accessed: May 2026. Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002L0049

[99]Minister for the Environment, Heritage and Local Government. 2006. Environmental Noise Regulations 2006 (S.I. No. 140 of 2006). Accessed: May 2026. Available from: https://www.irishstatutebook.ie/eli/2006/si/140/made/en/print

Opportunities

- Opportunities to consider noise and vibration standards in design and procurement where sensitive receptors may be affected.

In the context of the development of the Plan, the challenges and opportunities related to noise and vibration are considered localised issues to be addressed through the application of appropriate standards.

3.18 Transboundary Effects

The Governments of Ireland and Northern Ireland and the United Kingdom cooperate on transboundary environmental management issues. Ireland's RBMP 2022-2027 reports that the respective jurisdictions have adopted similar approaches to addressing and tackling environmental issues such as water quality, atmospheric pollution, invasive species, the effects of climate change, coastal resilience, migratory species, marine litter, marine protected areas (MPAs) and protecting habitats and species native to the island and its waters.

3.18.1 Water Environment

The RBMP 2022-2027 for the ROI identifies that Ireland shares two river basin districts (RBD) with Northern Ireland. Within these, there are eight ROI cross-border WFD catchments shared between Northern Ireland and Republic of Ireland and numerous shared WFD water bodies, including rivers, lakes, coastal and transitional water bodies and groundwater water bodies, numbering around 120 in total:

- Neagh Bann International RBD – 35 shared water bodies; and
- North Western International RBD – 85 shared water bodies.

The shared RBD and WFD catchments, and marine waters beyond the WFD transitional and coastal water bodies are shown on Figure 3-23 below.

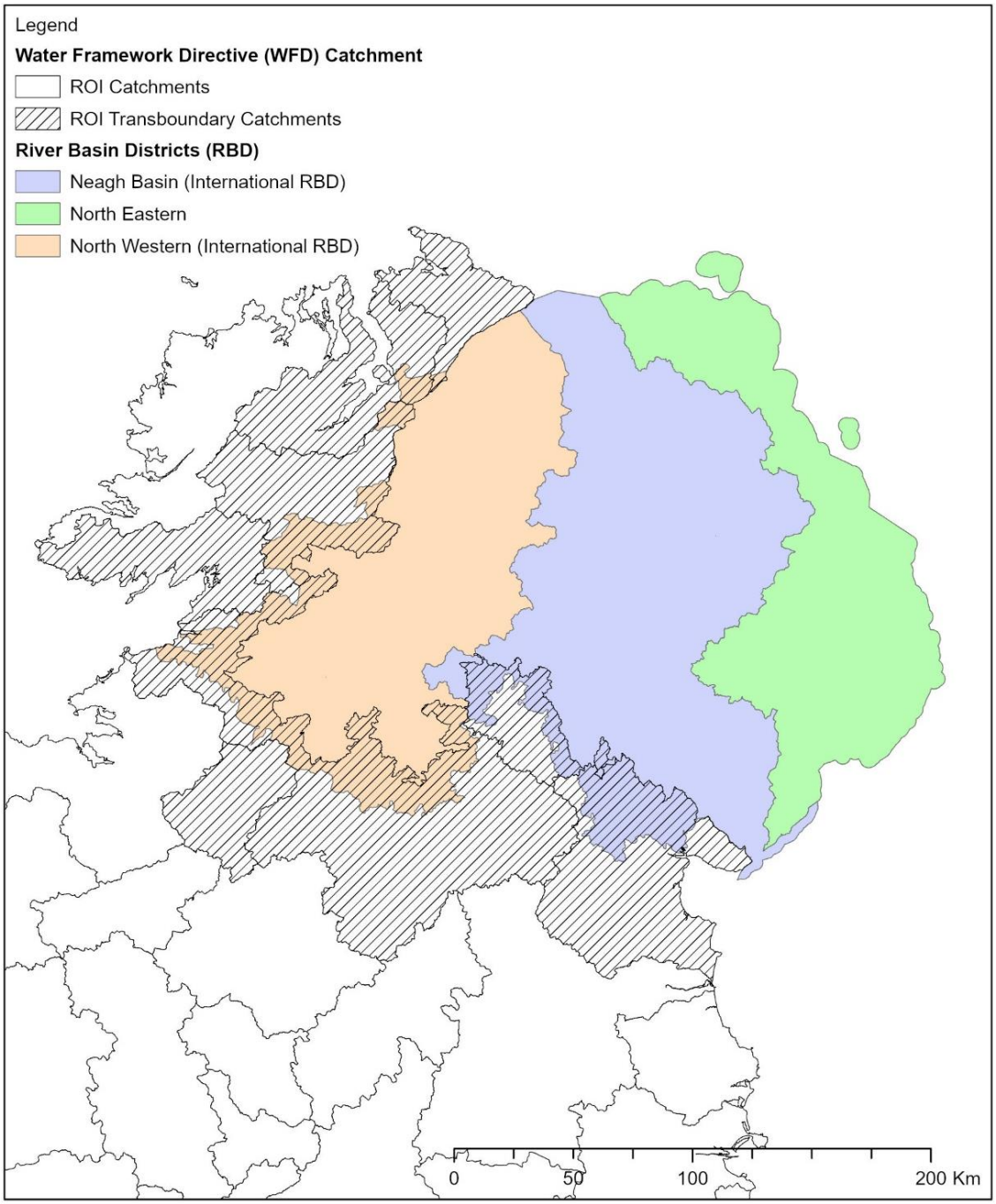

Figure 3-23 Shared NI River Basins Districts and ROI WFD catchments[100]

The Northern Ireland Environmental Statistics Report 2025 (DAERA)[101] presents the water body status for 2024 summarised below:

- River water body ecological and overall status in 2024, 131 (29 %) of the 450 river water bodies were classified as good or high ecological status. This figure includes 2 river water bodies classified as high;

[100] DAERA. 2023. Northern Ireland Environmental Statistics Report. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2023
[101] DAERA. 2025. Northern Ireland Environmental Statistics Report 2025. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2025

- Lakes ecological and overall water body status in 2024, 5 (24 %) of the 21 lake water bodies were classified as good ecological status. No lake water bodies were classified as high ecological status; and
- Transitional and coastal ecological status for in 2024, 10 (40 %) of the 25 water bodies achieved good ecological status. No transitional or coastal water body achieved high ecological status.

Northern Ireland river water body status is presented in Figure 3-24.

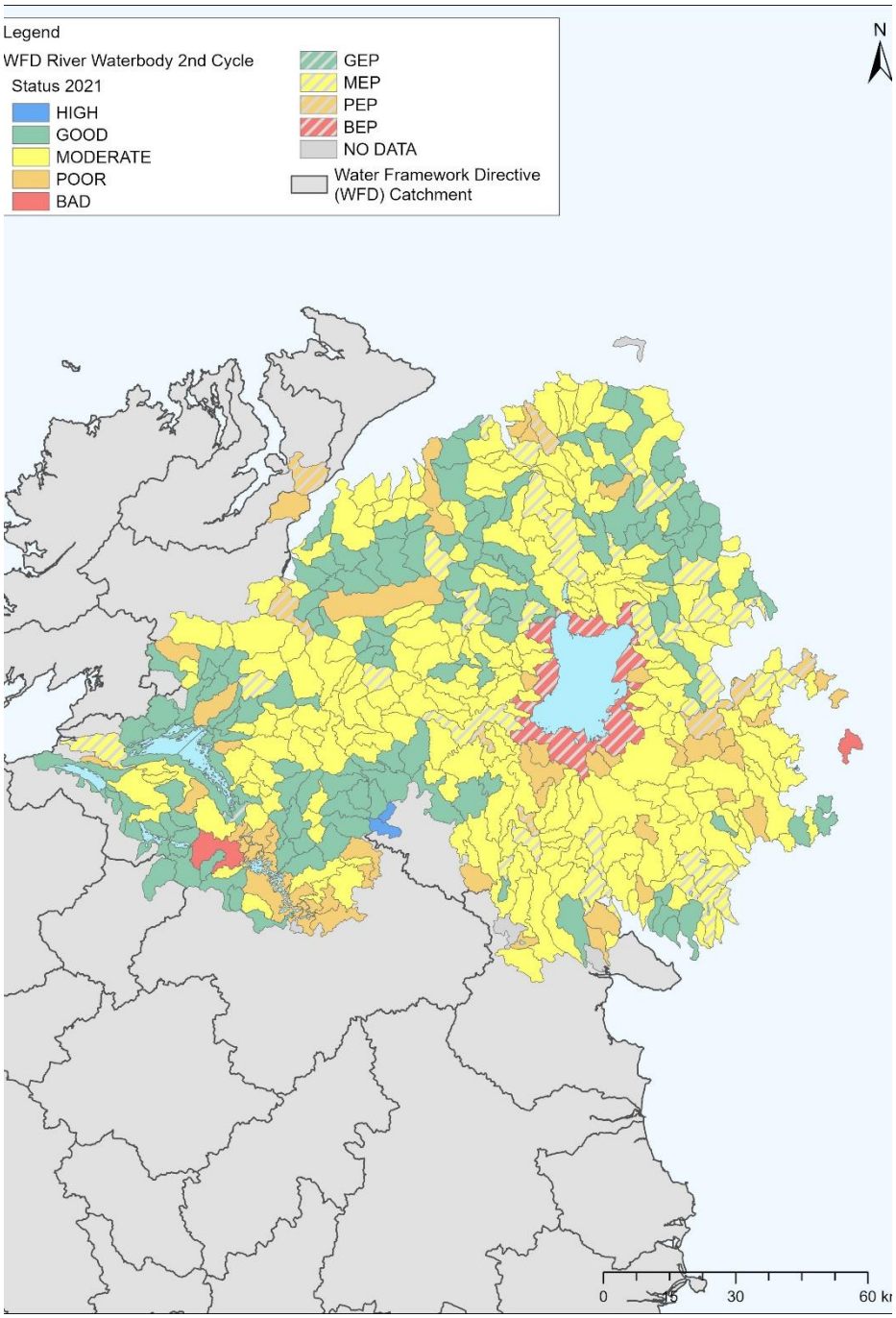

Figure 3-24 River water body status in Northern Ireland (DAERA[102])

[102] DAERA .2026. NI River Water body Status 2021. Accessed: June 2026. Available from: https://gis.daera-ni.gov.uk/arcgis/apps/experiencebuilder/experience/?id=88a9fa5374204d27b719f38763244c8f

According to DAERA [103], there are 33 bathing waters monitored in Northern Ireland. In 2025, 25 of these were reported to have met quality standards, with 24 of these classified as 'Excellent', 5 classified as 'Good' and 3 as 'Sufficient'. One site at Rea's Wood bathing water achieved a 'Poor' annual compliance.

There are 10 Shellfish Waters Protected Areas in Northern Ireland according to DAERA[104], and these are subject to Shellfish Action Plans that are to be reviewed as part of the third RBMP cycle. Good water quality is recognized to be important for the production of high-quality shellfish safe for consumption. Water quality and shellfish can be impacted by pollution from various sources, such as run-off from agricultural land or discharges from sewage treatment works.

Bathing Waters, Shellfish Waters, transitional and coastal water bodies in Northern Ireland are presented in Figure 3-25.

[103] DAERA .2026. About Bathing Water Quality. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/articles/about-bathing-water-quality
[104] DAERA .2026. Shellfish Water Protected Areas. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/articles/shellfish-water-protected-areas

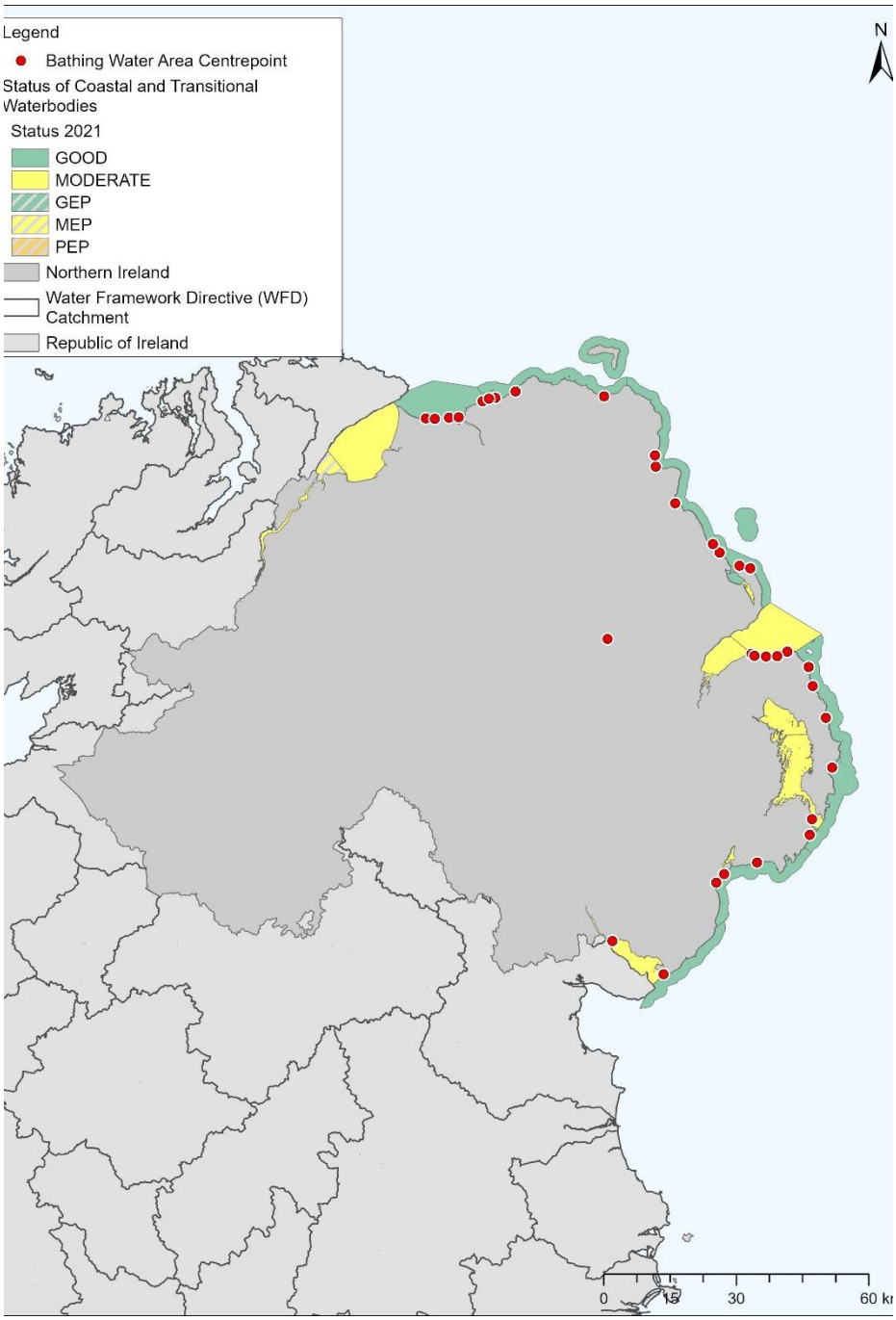

Figure 3-25 Transitional and coastal waters water body status in Northern Ireland (DAERA[105,106])

Northern Ireland's marine and coastal waters fall under the UK Marine Strategy which aims to achieve clean, healthy, safe, productive and biologically diverse seas. To help assess progress to achieving Good Environmental Status (GES) the strategy uses 11 qualitative descriptors. These have been colour coded to demonstrate where GES has been achieved (blue), partially achieve (orange), uncertain (white) or not achieved (red):

- Biological diversity (cetaceans, seals, birds, fish, pelagic habitats and benthic habitats);
- Nonindigenous species;

[105] DAERA. 2025. Bathing Water Areas. Accessed: June 2026. Available from: https://admin.opendatani.gov.uk/dataset/bathing-water-areas2

[106] DAERA. 2015. Surface Water Bodies Status. Accessed: June 2026. Available from: https://admin.opendatani.gov.uk/dataset/surface-water-bodies-status-20151

- Commercially exploited fish and shellfish;
- Food webs (cetaceans, seals, birds, fish and pelagic habitats);
- Eutrophication;
- Sea-floor integrity (pelagic habitats and benthic habitats);
- Hydrographical conditions;
- Contaminants;
- Contaminants in fish and other seafood for human consumption;
- Litter; and
- Introduction of energy, including underwater noise.

In summary, for the year 2024, GES has been achieved for eutrophication and changes in hydrographical conditions. GES has been partially achieved for seals, commercial fish and contaminants in seafood. GES has not been achieved for cetaceans, marine birds, fish, benthic habitats, food webs, contaminants and litter. GES is uncertain if achieved for pelagic habitats, non-indigenous species and the input of anthropogenic sound (UK Marine Monitoring and Assessment Strategy -UKMMAS)[107].

In order to address water pollution in Counties Fermanagh, Tyrone, Leitrim, Sligo, Cavan, Monaghan and Donegal, NI Water and Uisce Éireann initiated the cross-border project for Water Enhancements through Sustainable Treatment (WEST)[108].

The collaboration strives to improve water quality in Lough Erne, Lough Melvin, and Donegal Bay — areas within the North-Western International River Basin District affected by contaminants from agriculture, forestry, urban runoff and wastewater discharges through catchment modelling and sustainable wastewater treatment.

Wastewater treatment sites located at Ballybay (Co. Monaghan), Belleek (Co. Fermanagh), Blacklion (Co. Cavan) and Garrison (Co. Fermanagh), will be upgraded as part of the WEST project

Along with wastewater treatment plant upgrades, an extensive modelling programme will incorporate the sampling of rivers and lakes within the Erne catchment area. This element of the project will capture important data relating to the many different pollution sources exerted on Lough Erne, Lough Melvin and Donegal Bay and will culminate in the production of a strategy to help inform and target future investment for further water quality improvements.

The €32m project is supported by PEACEPLUS, a programme managed by the Special EU Programmes Body (SEUPB)[109] and is set for completion in 2029.

[107] UKMMAS. 2024. Summary of progress towards Good Environmental Status. Accessed: June 2026. Available from: https://moat.cefas.co.uk/summary-of-progress-towards-good-environmental-status/
[108] NI Water and Uisce Éireann. n.d. Water Enhancements through Sustainable Treatment. Accessed June 2026. Available at: https://www.water.ie/projects/local-projects/water-enhancements-through-sustainable-treatment-west-project
[109] Special EU Programmes Body. N.d. Accessed June 2026. Available at: https://www.seupb.eu/

3.18.2 Population, Economy, and Human Health

According to the 2021 Census statistical bulletins[110], the population of Northern Ireland was 1,903,175 and the number of households was 768,810.

The Northern Ireland 'usually resident' population increased by 5.1% (92,300) from 2011 to 2021. Belfast remains the largest Local Government District by population with 345,400 people in 2021 and Fermanagh & Omagh remains the smallest by population with 116,800 people in 2021. Population growth was proportionately greatest in Lisburn & Castlereagh with 149,100 people in 2021 (up 10.6% from 2011).

In Northern Ireland in 2021, there were 1.515 million adults aged 16 and over, of which 849,100 (56.1%) were in employment, 41,900 (2.8%) were unemployed and 623,700 (41.2%) were economically inactive (e.g. retired, long-term sick or disabled). Of the 41,900 unemployed, 16,900 were female (40.3%) and 25,000 were male (59.7%). Around 7,700 of the 41,900 unemployed were full-time students who were unemployed – of these, 54.6% were female and 45.4% were male.

In 2021 in Northern Ireland, in total 1.497 million people (78.7%), indicated they had 'Good or very good' general health and nearly 150,000 people indicated they had 'Bad or very bad' general health. The remaining 260,000 people indicated they had 'Fair' general health. The standard of general health falls with age. While less than 1% of people aged under 15 had 'Bad or very bad' general health, this rises to 17% of people aged 65 or more. In contrast nearly 97% of people aged under 15 had 'Good or very good' general health, this falls to half of people aged 65 or more. Total Population heat map in Northern Ireland is presented in Figure 3-26.

[110] NISRA .2021. Census statistical bulletins. Accessed: June 2026. Available from: https://www.nisra.gov.uk/publications/census-2021-statistical-bulletins

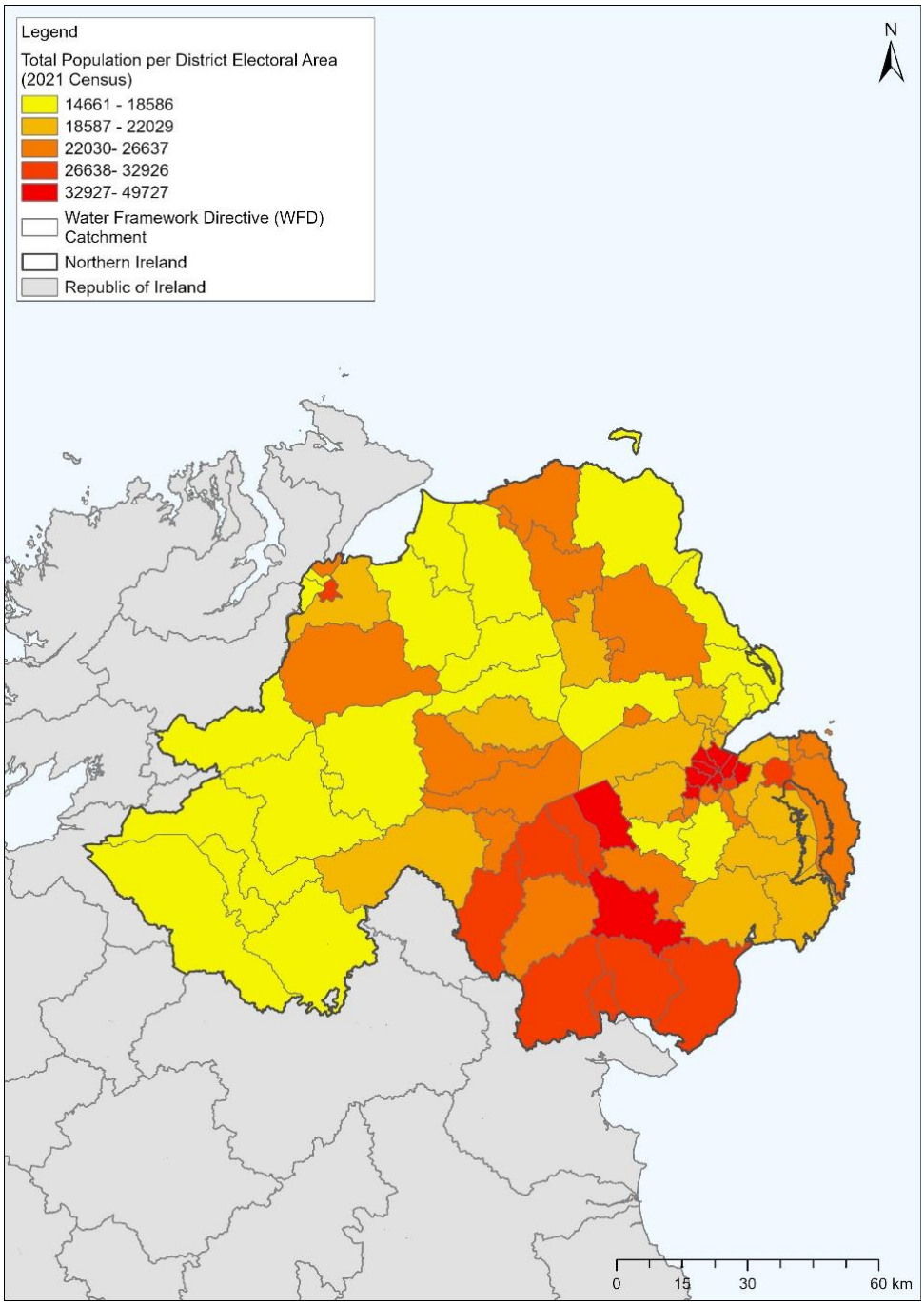

Figure 3-26 Total Population per District Electoral Area in Northern Ireland[111,112]

3.18.3 Climate Change

According to the UK Climate Change Committee's Climate Risk Independent Assessment 2021[113] which identifies the risk and opportunities posed by climate change, the climate is already changing in Northern Ireland.

[111] OSNI. n.d. District Electoral Areas. Accessed: June 2026. Available from: https://admin.opendatani.gov.uk/dataset/osni-open-data-largescale-boundaries-district-electoral-areas-2012
[112] NISRA .2025. Population by District Electoral Area. Accessed: June 2026. Available from: https://www.nisra.gov.uk/publications/ct0154-usual-resident-population-lgd-dea-urban-status
[113] UK Climate Change Committee. 2021. Climate Risk Independent Assessment 2021. Accessed: June 2026. Available from: https://www.ukclimaterisk.org/publications/type/national-summaries/

Across Northern Ireland, average annual land temperature in the decade 2010-2019 was 0.7°C warmer that the period from mid-1970s to mid-2010s. Winter 2019 was the third warmest winter for Northern Ireland since 1884.

In Northern Ireland between the period of the mid-1970s to mid-2010s and 2010-2019 there was an increase of 6.4%, from an average of 1099 mm per year to 1169 mm per year.

The climate science suggests that the effects of climate change on daily extreme rainfall events are only just beginning to emerge. However, the evidence of extreme maximum summer temperatures is becoming clearer, as reflected by how many of the UK's record extreme monthly temperatures have been set in the most recent decade along with a tendency for more heatwaves in recent years. A UK-wide sea level index suggests that sea level has risen by between 1.2 and 1.6 mm per year since 1901.

In Northern Ireland latest set of projected changes from the 2018 UK Climate Projections are:

- Annual temperatures in Northern Ireland are projected to rise between approximately 1.2°C by the 2050s and between 1.2 and 2.1°C by the 2080s from a 1981-2000 baseline average;
- Although temperatures are projected to increase in both summer and winter, warming is expected to be greatest in summer. Summer rainfall is projected to decrease, although extreme downpours will be heavier despite the overall drying trend;
- In winter, rainfall is expected to increase by approximately 3% by the 2050s and by between 7 and 10% by the 2080s from a 1981-2000 baseline;
- Summer rainfall is projected to decrease by approximately 11% by the 2050s and by between 10 and 15% by the 2080s; and
- Sea level is expected to rise by between approximately 14 and 19 cm by the 2050s and by approximately between 27 and 58 cm by the 2080s, compared to a 1981-2000 baseline.

3.18.4 Biodiversity and Landscape

According to Northern Ireland Environmental Statistics Report 2025[101], in Northern Ireland there are 58 Special Areas of Conservation (SACs), 16 Special Protected Areas (SPAs), 20 Ramsar sites and 5 Marine Conservation Zones are adopted in Northern Ireland. These along with coastal Areas of Special Scientific Interest, Marine SPAs and Ramsar sites are included in their Marine Protected Areas, totalling 48 sites.

In the ROI, Marine Conservation Zones adoption is currently at a consultation stage, however marine classifications are included in the current ROI designated sites classifications.

Other designated sites in Northern Ireland include; National Nature Reserves and 394 Areas of Special Scientific Interest (ASSIs) as shown in Figure 3-28, and Areas of Outstanding Natural Beauty (AONBs) and Seascapes as shown in Figure 3-27. The designated sites are shown, including the ROI biodiversity designations in Figure 3-28 and the landscape and seascape designations in Figure 3-27, within the neighbouring areas with the WFD catchments and RBDs.

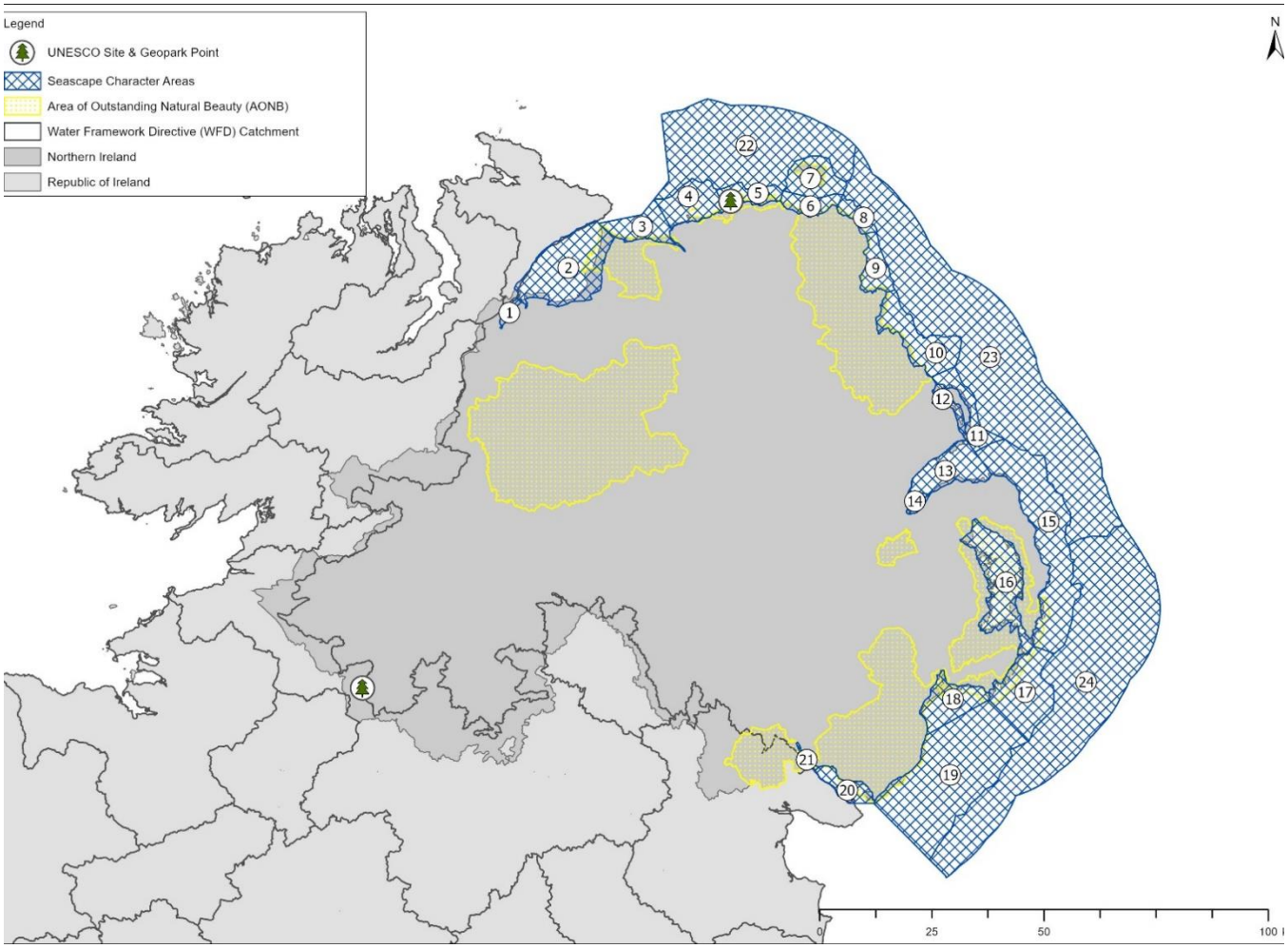

Figure 3-27 Northern Ireland Landscape Designations (DAERA[114,115])

[114] DAERA. 2019. Areas of Outstanding Natural Beauty (AOBs). Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/aonb-digital-datasets

[115] DAERA. 2019. NI Seascape Character Assessment. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/ni-seascape-character-area-digital-datasets

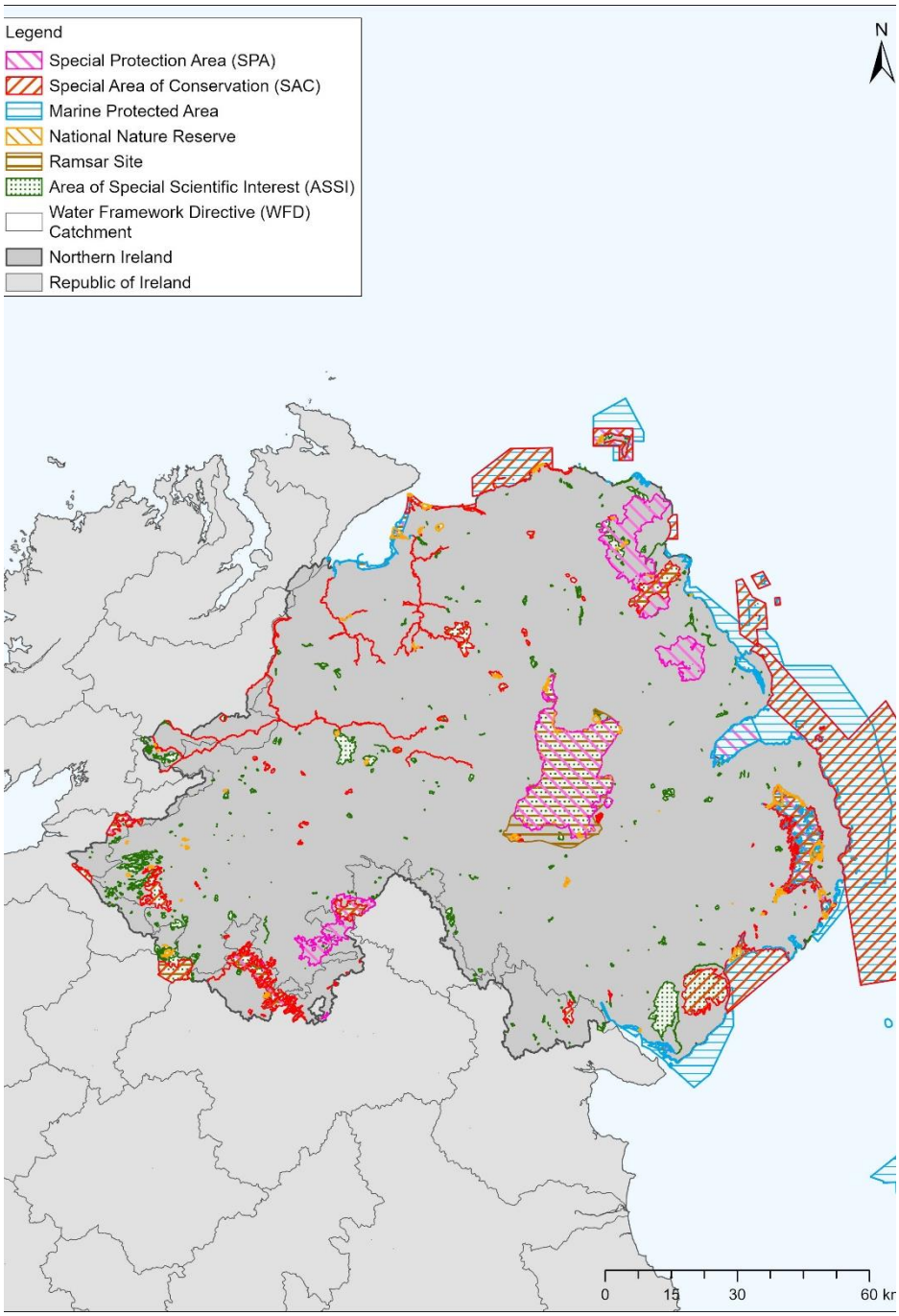

Figure 3-28 Northern Ireland Biodiversity Designated Sites (DAERA[116,117,118,119,120,121])

3.18.5 Cultural Heritage and Tourism

Figure 3-29 shows the cultural heritage sites (both designated and undesignated) within Northern Ireland. Many of these sites are also important tourist sites. In addition, non-designated sites, archaeological interest,

[116] DAERA. 2019.Special Area of Conservation (SAC). Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/special-areas-conservation-digital-datasets
[117] DAERA. 2019.Special Protection Area (SPA). Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/special-protection-areas-digital-datasets
[118] DAERA. 2019.Ramsar. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/ramsar-sites-digital-datasets
[119] DAERA. 2019.National Nature Reserves. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/national-nature-reserves-digital-datasets
[120] DAERA. 2019.Areas of Special Scientific Interest. Accessed: June 2026. Available from: https://www.daera-ni.gov.uk/publications/assi-digital-datasets
[121] DAERA. 2022.Marine Protected Areas. Accessed: June 2026. Available from: https://opendata-daerani.hub.arcgis.com/datasets/DAERANI::northern-ireland-marine-protected-areas-mpas/explore?location=54.560790%2C-6.064569%2C8

industrial heritage features including those associated with water courses and shipwreck sites are also part of the baseline environment.

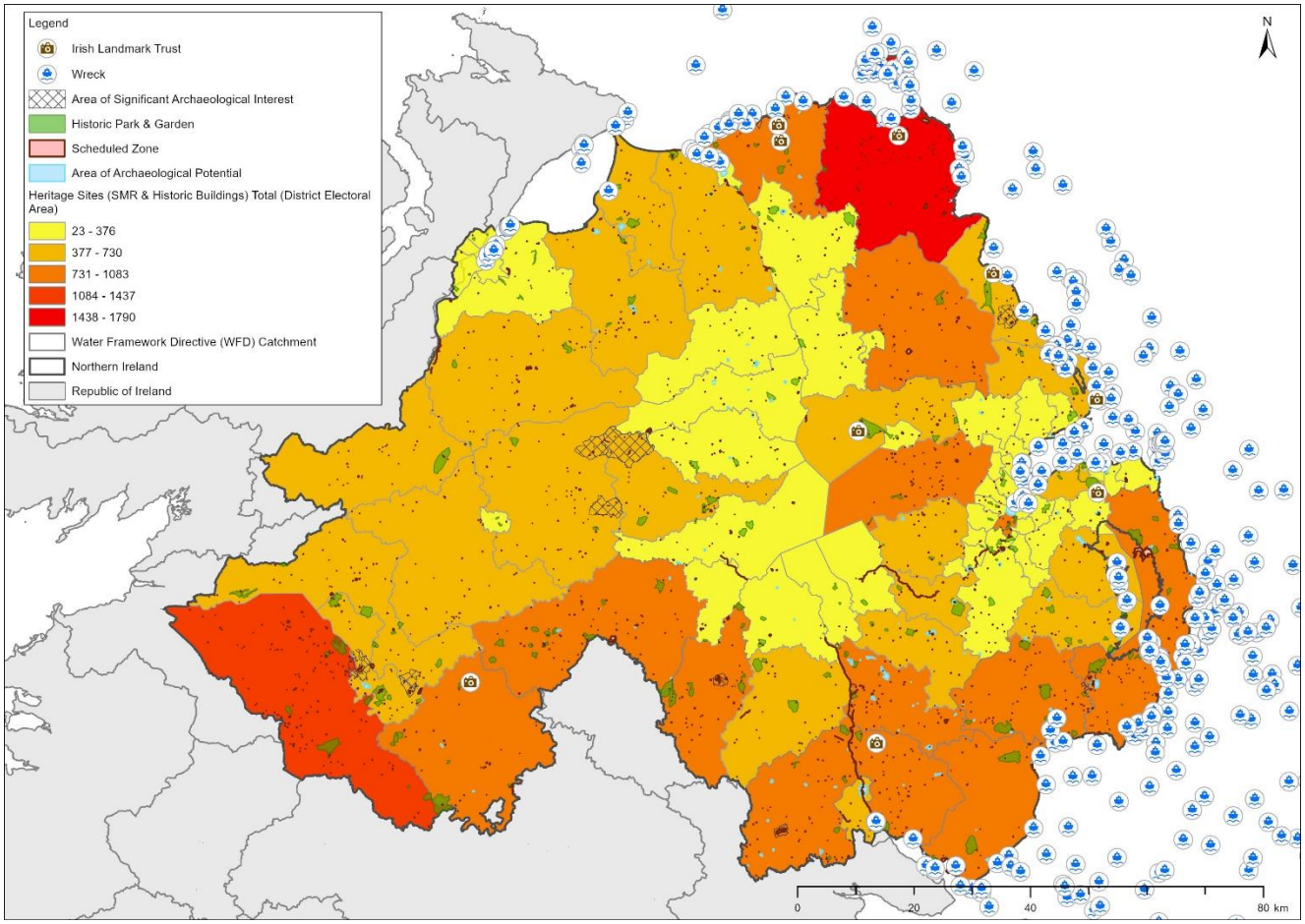

Figure 3-29 Cultural heritage and tourism in Northern Ireland[122]

3.18.6 Geology and Soils

According to the British Geological Survey (BGS) Geology of Northern Ireland: our natural foundation 2004[123], in Northern Ireland the basement is partitioned into areas that represent remnants of three major terranes.

When the younger Phanerozoic cover rocks are superimposed on the basement complex Northern Ireland can be divided into four areas with quite distinctive geological characteristics, and ages of rocks that are not usually found in any of the other quadrants:

- The northwest quadrant is composed of Dalradian rocks, the early Ordovician Tyrone Igneous Complex and late Ordovician-early Silurian Pomeroy Inlier;
- The southeast quadrant is composed of Ordovician and Silurian rocks of the Southern Uplands-Down-Longford Terrane with younger intrusive complexes;
- The southwest quadrant is composed largely of Carboniferous rocks and a Devonian component; and
- The northeast quadrant has Palaeogene basalt lava and lacustrine sedimentary rocks of the Antrim Plateau at surface and is underlain by rocks of Permian to Cretaceous age.

[122] Department for Communities .2018. Northern Ireland Historic Environment Division data sets. Accessed: June 2026. Available from: https://services2.arcgis.com/BdBkthNLO9mzGAMO/ArcGIS/rest/services/Historic_Environment_Division_GIS_Data/FeatureServer
[123] British Geological Survey (BGS) .2004. Geology of Northern Ireland: our natural foundation. Accessed: June 2026. Available from: https://earthwise.bgs.ac.uk/index.php/Geology_of_Northern_Ireland:_our_natural_foundation

Figure 3-30 below present a simplified geological map of Northern Ireland, legend is available in Appendix D.

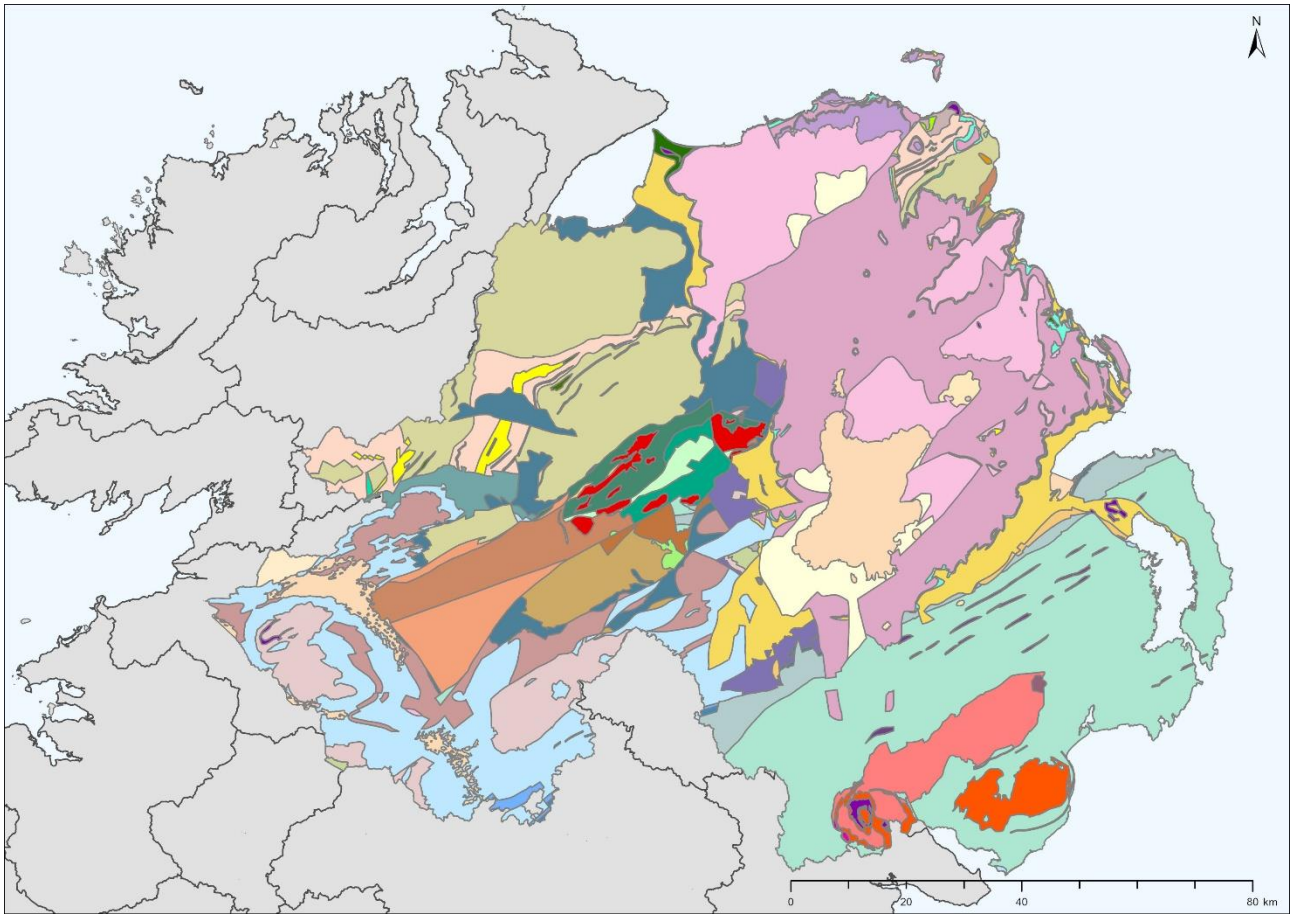

Figure 3-30 Simplified geological map of Northern Ireland (BGS[124])

3.18.7 Air Quality

According to the Northern Ireland Environmental Statistics Report 2025[101] the air quality in Ireland in 2024 was as follows:

- Roadside nitrogen dioxide levels have decreased from a high annual average of 40.6 µg/m3 in 2012 to 22.6 µg/m3 in 2024;
- In 2024, the mean nitrogen dioxide level for the ten sites used to produce an indicator for reporting was 25.9 µg/m3 lower than the level reported in 2023;
- In 2024 there was no breach of the UK Strategy Objective or The Air Quality Standards Regulations Limit Values of 40 µg/m3 for the annual mean concentration of particulate matter (PM_{10});
- The annual mean concentration of PM10 across urban areas was 13 µg/m3 and the mean for the Lough Navar rural background monitoring site was 7 µg/m3; and
- In 2022, of the ammonia emissions from agriculture, 85.9% were produced from livestock, 8.0% from the application of mineral fertilisers containing nitrogen and 6.1%from the application of other organic materials to land (sewage sludge and digestate).

[124]British Geological Survey (BGS) .2004. Simplified geological map of Northern Ireland (BGS). Accessed: June 2026. Available from: https://earthwise.bgs.ac.uk/images/a/af/P948088.jpg

3.18.8 Noise and Vibration

In Northern Ireland, noise and vibration issues are managed locally by district councils and regulated under the Local Government (Northern Ireland) Order 1978[125] and Order 2002[126].

Councils enforce limits for environmental, neighbourhood, and construction nuisances as follows:

- Typically noisy machinery and building work is restricted to weekdays between 7:00 am and 7:00 pm;.
- Night Hours: The law defines strict acceptable noise levels between 11:00 pm and 7:00 am;
- Construction & Open Sites: Operations must employ the "best practicable means" to reduce disturbance, adhering to British Standards like BS 5228 for control of noise and vibration; and
- Industrial & Planning: New developments are usually required to submit assessments to ensure they do not create an adverse local impact.

3.18.9 Summary of Sources of Information

A summary of the key sources of information on the Northern Ireland baseline environment by topic area is provided in Table 3-19. These sources will be considered further where potential for transboundary effects or pathways for effects are identified for the draft Plan.

General sources of sources information on the baseline environment for Northern Ireland are:

- State of the Environment Report for Northern Ireland (2013) – From Evidence to Opportunity; and
- Northern Ireland Environmental Statistics Report 2025 provides an annual update adding to the information and trends outlined in the State of the Environment Report for Northern Ireland.

Table 3-19 Northern Ireland Baseline Information and Data Sources

Topic	Data
Water Environment	WFD information: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2025 Ground water, surface water and marine environment information for 2025: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2025 DAERA Marine Map Viewer: https://www.daera-ni.gov.uk/services/marine-mapviewer Bathing Waters: About Bathing Water Quality: https://www.daera-ni.gov.uk/articles/about-bathing-water-quality Northern Ireland Coastal Viewer https://www.daera-ni.gov.uk/services/marine-mapviewer
Population, Socio-economics and Health	CENSUS 2021 Statistics: https://www.nisra.gov.uk/statistics/census/census-2021
Climate Change	Climate Change Mitigation Branch refers Uisce Éireann to the recently passed Climate Change Act (Northern Ireland) 2022: https://www.legislation.gov.uk/nia/2022/31/contents/enacted The UK Climate Change Committee recently published its Climate Risk Independent Assessment 2021 which identifies the risk and opportunities posed by climate change over the next five years. A summary for Northern Ireland can be found below: https://www.ukclimaterisk.org/publications/summary-for-northern-ireland-ccra3-ia/
Biodiversity	Designated Scientific Sites: https://www.daera-ni.gov.uk/protected-areas

[125] Local Government (Northern Ireland) .1978. The Control of Noise (Code of Practice for Construction Sites) Order (Northern Ireland) 1978 no. 349. Accessed: June 2026. Available from: https://www.legislation.gov.uk/nisr/1978/349/made

[126] Local Government (Northern Ireland) .2002. The Control of Noise (Codes of Practice for Construction and Open Sites) Order (Northern Ireland) 200 no. 303. Accessed: June 2026. Available from: https://www.legislation.gov.uk/nisr/2002/303/made#f00001

Topic	Data
	DAERA have a map browser for NI protected sites and known priority habitat: www.daera-ni.gov.uk/services/natural-environment-map-viewer Northern Ireland Priority Species List: https://www.daera-ni.gov.uk/sites/default/files/publications/doe/northern-ireland-priority-species-list.pdf
Fisheries and Angling	DAERA – Fisheries Policy: https://www.daera-ni.gov.uk/articles/fisheries-policy https://www.daera-ni.gov.uk/sites/default/files/publications/daera/FSDP%20final%20report%20April%202021%20-%20Final%20version%20for%20publication%2027%20April%202021.PDF Shellfish waters (WFD protected areas for the protection of economically significant aquatic species): Shellfish Water Protected Areas | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk) Angling: https://www.nidirect.gov.uk/articles/angling-regulations-rules#toc-2
Landscape, Townscape and Seascape	Northern Ireland Landscape Character Assessment: https://www.daera-ni.gov.uk/publications/northern-ireland-landscape-character-assessment-six-distinctive-landscapes Northern Ireland Regional Seascape Assessment: https://www.daera-ni.gov.uk/publications/northern-ireland-regional-seascape-character-assessment
Cultural Heritage – Archaeological and Architectural	UNESCO: https://whc.unesco.org/en/statesparties/gb Historic buildings and monuments: https://www.nidirect.gov.uk/articles/historic-buildings-and-monuments Historic Environment Division Digital Datasets: https://www.communities-ni.gov.uk/publications/historic-environment-digital-datasets Landmark sites: https://www.theirelandwalkingguide.com/trails.html
Geology and Soils	Northern Ireland State of the Environment Reports: https://www.daera-ni.gov.uk/publications/state-environment-report-2013 Northern Ireland Environmental Statistics Report 2025: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2025
Air Quality	Information on NO_2, and particulate matter trends: Northern Ireland environmental statistics report | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk) Air pollution information is provided: https://www.daera-ni.gov.uk/publications/air-pollution-northern-ireland-2024-report
Noise and Vibration	Noise level maps are available through a web mapper: Noise | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)
Material assets	Land use: https://land.copernicus.eu/pan-european/corine-land-cover/clc2018
All topics	Northern Ireland State of the Environment Reports: https://www.daera-ni.gov.uk/publications/state-environment-report-2013 Northern Ireland Environmental Statistics Report 2025: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2025 Our natural environment datasets are available at the link below: www.daera-ni.gov.uk/articles/download-digital-datasets Northern Ireland Coastal Viewer: https://www.daera-ni.gov.uk/services/marine-mapviewer

3.18.10 Key Considerations for the Small WWTP National Plan and the SEA

Key challenges and opportunities with potential cross border effects:

Challenges

- Wastewater discharges affecting rivers and coastal waters and associated designated sites; and

- Potential impacts due to proximity of infrastructure development on cultural heritage, landscape and habitats.

Opportunities

- Opportunities to reduce pollution of water bodies and improve raw water quality for water supply through nature-based solutions and sustainable catchment management solutions.

3.19 Summary of the Scope of the SEA

Table 3-20 sets out the proposed scope for the SEA of the draft Plan. All environmental topics identified in the SEA Directive are scoped into assessment for construction and operation, with the exception of noise and air quality (see Table 3-20 for further detail). Given the strategic nature of the Plan which will provide a framework and methodology for the risk based assessment of appropriate wastewater treatment processes for small WWTPs in Ireland, the nature of assessment of construction and operation impacts is proposed to vary by topic as shown in Table 3-21.

Construction related impacts will be related to issues such as risks to water quality from construction activities, risk of small-scale habitat loss or fragmentation and damage or loss of archaeological assets and disturbance to local communities from construction noise, dust or traffic movements. Given the relatively small-scale of new infrastructure likely to be required through implementation of the Plan, it is proposed that SEA identifies non-site-specific mitigation recommendations to be developed and implemented at project level when detailed location specific constraints and design information is available. Operational impacts on landscape, cultural heritage and geology and soils would relate to setting effects, and the same principles of identifying recommendations to be implemented at project level applies. As described in more detail in Table 3-20 it is proposed to focus the SEA on the operational impacts on the water environment, biodiversity and population, health and economy specifically relating to changes in water quality resulting from implementation of the Plan and changes in the management of small WWTPs across Ireland.

Table 3-20 Scope summary for the SEA of the draft Plan

SEA topic	Scope	Scoped in - Y/N?	
	Matters for consideration	**Construction Phase**	**Operation Phase**
Water environment	**Challenges**: Water pollution affecting fresh, estuarine and coastal waters from small WwTW discharges. New and upgraded infrastructure requirements to meet needs and improve resilience. **Opportunities**: Continued investment to reduce pressure and achieve environmental improvements	In	In
Population, socio-economics and human health	**Challenges**: Population growth with implications for level of demand for wastewater services. Access to, and quality of, natural environment including rivers, lakes, canals, coastal areas, bathing waters, marine and freshwater fisheries and shellfish waters is important for local economies, tourism, recreation and wellbeing. Construction and operational nuisance from noise, air pollution and traffic generation and from wastewater treatment plant odour. Opportunities: Investment in wastewater treatment will support improved water quality with wider social and environmental benefits. Opportunities to reduce nuisance effects from wastewater treatment odour.	In	In

SEA topic	Scope	Scoped in - Y/N?	
	Matters for consideration	**Construction Phase**	**Operation Phase**
Climate change	**Challenges:** Changes to rainfall patterns, temperature, seal level rise and increase frequency of weather events affecting the environment and risks to infrastructure and services. **Opportunities:** Support environment resilience by reducing pressure from wastewater discharges and making infrastructure and services more resilient to extreme events.	In	In
Biodiversity	**Challenges**: Impacts from wastewater discharges to water bodies – pollution potentially affecting aquatic ecology, fresh water estuarine and marine. New and upgraded infrastructure – plants and pipelines with potential for habitat loss, fragmentation, disturbance and pollution. **Opportunities**: Opportunities to reduce pollutant loads. Biodiversity no net loss and potential for net gain including benefits from nature-based solutions.	In	In
Landscape, townscape and seascape	**Challenges**: Infrastructure development and construction work can have impacts on visual amenity and landscape, townscape or seascape depending on location. Wastewater discharges can lead to algal blooms also affecting visual amenity such as litter. **Opportunities**: Sensitive siting and construction of new infrastructure, improvements to the wastewater discharge with benefits for water quality and risk of algal blooms.	In	In
Cultural heritage	**Challenges**: Infrastructure development and construction work can have impacts on cultural heritage and archaeology and architecture either through direct loss or impacts on their settings. River and coastal heritage structures and sites in particular.	In	In
Geology and soils	**Challenges**: Potential impacts on designated geological sites of interest from infrastructure construction and soil loss. **Opportunities**: Potential for nutrient recovery and reuse of sewage sludge in agriculture supporting soil health and circular economy principles.	In	In
Air quality	**Challenges**: Air pollution from construction works, vehicle movements and operations including odour from wastewater treatment works (addressed under Population, socio-economics and human health above). **Opportunities**: Construction air emissions can be managed through good construction practice, fuel/ energy policy. Wastewater treatment improvements, higher design standards and operation practice can reduce odour. Construction related emissions are considered local issues addressed through application of appropriate standards at lower programme and project levels and are therefore considered generally as potential nuisance or disturbance effects under population and health.	Out	In

SEA topic	Scope	Scoped in - Y/N?	
	Matters for consideration	**Construction Phase**	**Operation Phase**
Noise and vibration	**Challenges**: Noise and vibration from construction works and operations including vehicle movements. **Opportunities**: Construction noise can be managed through good construction practice and appropriate design standards and siting to take account of sensitive receptors. These are considered local issues addressed through application of appropriate standards at lower programme and project levels and are therefore considered generally as potential nuisance or disturbance effects under population and health.	Out	Out
Material assets	**Challenges**: Ageing wastewater infrastructure assets needing repair maintenance and replacement. Waste management challenges for sewage sludge and water treatment residuals to avoid pollution and minimise disposal of waste to landfill. **Opportunities**: Potential to adopt circular economy principles and potential for waste resource recovery through use on land and innovation for use for renewable energy/fuel.	In	In
Interrelated aspects			

Table 3-21 Nature of Assessment at Topic Level

Phase	Topics	Nature of Assessment
Construction	Water environment Population, socio-economics and human health Biodiversity Landscape, townscape and seascape Cultural heritage Geology and soils Material assets	Evaluation of the potential types of impacts that can occur as a result of construction and operation of the different types of new or upgraded infrastructure. This will need to consider the nature and scale of proposed development anticipated to be required to align Uisce Éireann's existing asset base with the Plan. Non site-specific recommendations to support risk assessment and mitigation/enhancement identification at programme and project level.
Operation	Landscape, townscape and seascape Cultural heritage Geology and soils Material assets Air quality (odour only)	
Operation	Water environment Biodiversity Population, socio-economics and human health	Assessment at the catchment and water body or site level (as appropriate) of impacts associated with changes in water quality and quantity in receiving water bodies for small WwTW discharges and cumulative effects along with site specific SEA mitigation measures identified.

3.20 Interrelated SEA Topics

SEA topics are recognised to be linked and interrelated and the cross-topic relationships are identified in the table below.

Table 3-22 Interrelated SEA topics

SEA Topic	Water Environment	PopN, Econ, Rec, Health	Climate Change	Biodiversity	Material Assets	Landscape	Cultural Heritage	Geology and Soils	Air Quality
PopN, Econ, Rec, Health	Y								
Climate Change	Y	Y							
Biodiversity	Y	Y	Y						
Material Assets	Y	Y	Y	Y					
Landscape	Y	Y	Y	Y	Y				
Cultural Heritage	Y	Y	Y	Y	Y	Y			
Geology and Soils	Y	Y	Y	Y	Y	Y	Y		
Air Quality	N	Y	Y	Y	N	N	N	Y	
Noise and Vibration	N	Y	N	Y	Y	N	Y	N	N

SEA Scoping Questions – Chapter 3

1. Chapter 3 sets out the current baseline environment conditions, future trends and relevant issues for the assessment. Do you have any comments on these?
2. Are there are recreational or tourism uses of the waterways within the SEA study area or additional locations where fishing and water sports take place, that should be considered as part of the baseline?

4 Review of Policies, Plans, and Programmes

4.1 Introduction

The SEA Directive states in Article 5(1) of Annex 1 that the environmental assessment must identify "the environmental protection objectives, established at International, European Union or national level, which are relevant to the plan or programme, or modification to the plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation".

In accordance with this requirement, a review of other plans, policies and programmes and the legislative framework is an important part of setting the context for the SEA and the Plan. The review also identifies wider environmental protection objectives. These may be plans and programmes at an international (European), national (including cross-boundary), regional or sub-regional level, commensurate with the scope of the Plan. The review aims to identify the relationships between the Plan and these other documents i.e., how the Plan could be affected by the other plans and programmes' aims, objectives and/or targets, or how it could contribute to the achievement of their environmental and sustainability objectives.

The review has been undertaken in two stages firstly as a comprehensive review of plans, policies to identify those directly relevant for the Plan and SEA (Appendix B) and a further review focusing on the how those identified can inform the scope of the baseline and the assessment including the SEA Objectives. Those considered most influential are also outlined in more detail in Section 4.2 in keeping with the EPA's guidance[127] recommending focus on a few key policy and plans. Figure 4-1 identifies how the Plan relates to the key national and regional level plans, policies and strategies.

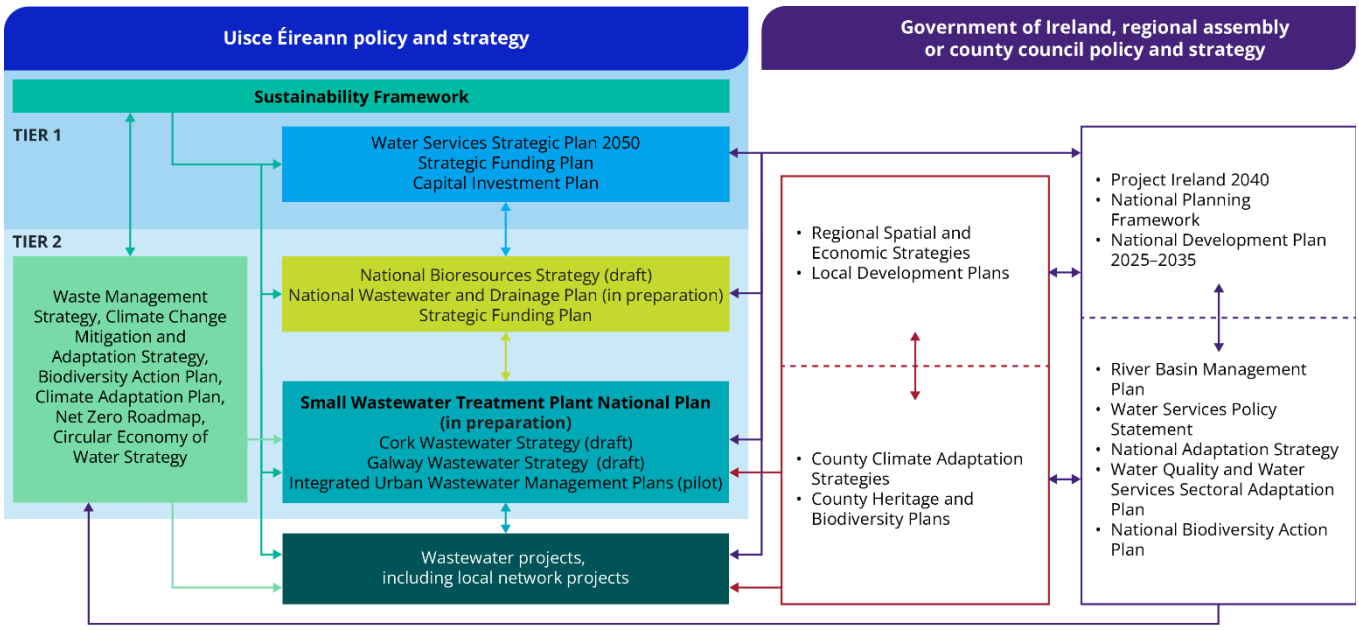

Figure 4-1 Hierarchy and interaction of plans and project

[127] EPA. 2022. Good Practice Guidance Strategic Environmental Assessment in the Water Sector. Accessed: May 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/good-practice-guidance-note-on-sea-in-water-sector.php

4.2 Key Influences and interactions

The key legislation, policies and plans that need to be taken into account in the Plan and the environmental assessment are considered below under the following headings (note a comprehensive list of relevant plans is provided in Appendix B):

- Water resources and quality;
- Climate change;
- Biodiversity;
- Circular Economy; and
- Land use and planning.

4.2.1 Water Resources and Water Quality Plans and Policies

Water Framework Directive and River Basin Management Plan

The EU WFD (Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy) and the River Basin Management Plan (RBMP), required under WFD, are of relevance to the development of the Plan as they set the framework for managing Uisce Éireann's activities relating to pollution from wastewater discharges. They strongly influence investments in wastewater infrastructure to address inadequately treated wastewater, deficits and future growth needs.

The WFD establishes a standard European wide strategic approach to managing surface water, groundwater, transitional and coastal water bodies, wetlands and to meeting common environmental objectives.

The Directive is linked to, and reinforces, other EU environmental directives including directives relating to the protection of biodiversity (Birds and Habitats Directives), directives related to specific uses of waters (drinking water, bathing waters and urban wastewater directives) and to directives concerned with the regulation of activities undertaken in the environment (Industrial Emissions and Environmental Impact Assessment directives). The Nitrates Directive also forms an integral part of the Directive and is one of the key instruments in the protection of waters against agricultural pressures.

European Union Member States implement the WFD through RBMPs in six-year cycles. This process allows for assessment, planning, implementation, and review at regular intervals. Ireland's approach to water quality management has developed over the first and second RBMPs and now evolved into the third cycle to protect and improve water quality nationally and locally.

Under Article 4(1)(a) of the WFD, Ireland must adopt the necessary measures to achieve the objectives of non-deterioration, preservation and enhancement of the status of bodies of water by making the programmes specified in the RBMP operational for the achievement of the WFD environmental objectives. Both the obligations to enhance, and to prevent deterioration of the status of bodies of water, are designed to attain the qualitative objectives pursued by the EU legislature, namely the preservation or restoration of good status, good ecological potential and good chemical status of surface waters.

The WFD establishes a standard European wide strategic approach to managing surface water, groundwater, transitional and coastal water bodies, wetlands and to meeting common environmental objectives.

The WFD environmental objectives for surface waters include the following:

- Prevent deterioration;
- Aim to achieve good ecological status (or for Artificial or Heavily Modified water bodies, good ecological potential);
- Aim to achieve good chemical status;

- Aim to reduce/cease emissions, discharges and losses from priority substances and priority hazardous substances; and
- Meet protected area objectives where relevant.

More details on the WFD, the current baseline and key trends for the water environment are presented in Chapter 3.8 of this SEA Scoping Report.

The RBMP for Ireland sets out how organisations, stakeholders and communities will work together to improve the water environment and fulfil the requirements of the WFD. The RBMP is updated every six-years as part of the river basin planning cycle; the second cycle RBMP[128] set out what measures would be undertaken to protect and improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters).

The third cycle River Basin Management plan 2022-2027 - Water Action Plan 2024 (RBMP for Ireland)[129] sets out the measures that are necessary to protect and restore water quality in Ireland. The overall aim of the plan is to ensure that the natural waters are sustainably managed and that freshwater resources are protected to maintain and improve Ireland's water environment.

Protecting and restoring water quality in Ireland will most of all need measures to address the loss of agricultural nutrients to water, continue to improve wastewater treatment and to re-establish natural free-flowing conditions in more rivers. Ireland's wastewater services face challenges on a number of fronts including a continued need for investment in infrastructure and an ever-increasing demand for water and wastewater services due to urbanisation, population and economic growth all set against a backdrop of widespread, rapid, and intensifying climate change.

Urban Wastewater is one of 15 main environmental measures set out in the Water Action Plan 2024 that address the significant environmental pressures on water. The measure includes those applied at a general scale and specific measures applied to certain catchments or sub-catchments (or at water body scale) as is necessary to meet the specific environmental objectives.

The Water Action Plan notes that the objective of the Urban Wastewater Treatment Directive (UWWTD) (including the revised UWWTD) is to minimise the impact of urban wastewater discharges on receiving waters. This approach contributes to the objectives of the Water Framework Directive, however in some cases additional emission limit values may be required to reach these objectives over and above UWWTD compliance. Uisce Éireann's investment programme for wastewater collection and treatment will need to support compliance with the Urban Wastewater Treatment Directive and the Water Framework Directive.

Wastewater Treatment Plants (WWTPs) identified in the Water Action Plan 2024 (RBMP for Ireland) as causing water quality impacts in the rivers they discharge, are included in Uisce Éireann River Basin Management Plan Enhanced Ambition Programme funded by the European Union under Ireland's National Recovery and Resilience Plan.

The Small WWTP National Plan and the SEA need to take account of the objectives and targets of the River Basin Management Plans for the environment and the specific actions identified for Uisce Éireann.

Urban Wastewater Directive

The Urban Wastewater Directive (UWWTD) consolidated in 2024 (Council Directive 91/271/EEC of 21 May 1991) is a European Union (EU) directive regarding urban wastewater collection, wastewater treatment and its

[128] DHLGH. 2018. River Basin Management Plan 2018 - 2021. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/429a79-river-basin-management-plan-2018-2021/
[129] DHLGH. 2024. Water Action Plan 2024 (A River Basin Management Plan for Ireland). Accessed: May 2026. Available from: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/policy-information/river-basin-management-plan-2022-2027/

discharge. It sets standards for both treatment and disposal of sewage for communities of more than 2,000 person equivalents as well as monitoring requirements for wastewater discharges from urban areas.

A recast UWWTD was adopted by the EU and entered into force on 1 January 2025. The directive is required to be transposed into national legislation by 31 July 2027 and will be the relevant legislation for wastewater services planning for the Plan. The main changes between the Urban Wastewater Treatment Directive (UWWTD) and its recast version (often referred to as the UWWTD recast or UWWTD 91/271/EEC recast) primarily involve updates and enhancements aimed at improving water quality and environmental protection standards across the EU. The revision of this directive is one of the key deliverables under the EU's zero pollution action plan and aims to update the current directive by extending its scope and aligning it with the European Green Deal's objectives.

Wastewater discharges are regulated by the EPA under the European Union (WasteWater Discharge) Regulations 2007 to 2020. This has been the relevant legislation setting standards for wastewater services over the last 18 years.

The amendments to this legislation will influence the recommendations of the draft Plan and is considered fundamental to the future regulatory framework once it is transposed into Irish legislation.

Some key differences and updates introduced in the recast UWWTD include:

- Scope and Definitions: The recast clarifies and updates definitions related to wastewater treatment and discharge, ensuring consistency and alignment with current environmental standards;
- Nutrient Removal Requirements: The recast strengthens requirements for nutrient removal, particularly for nitrogen and phosphorus, to reduce eutrophication in receiving waters. This includes stricter standards for sensitive areas such as coastal waters and freshwater bodies;
- Implementation Deadlines: The recast sets revised deadlines for member states to comply with the directive's requirements, reflecting technological advancements and the need for accelerated environmental improvements:
    - All agglomerations of 1,000PE or more to require an urban wastewater collecting system by 2035;
    - Tertiary treatment to be required for treatment of urban wastewater for all agglomerations of 150,000 PE or more by 2039 and by 2045 for those agglomerations greater than 10,000 PE; and
    - Quaternary treatment for removal of a broad spectrum of micropollutants to be mandatory for all WWTPs of over 150,000 PE by 2045 (and by risk assessment over 10,000PE).
- Monitoring and Reporting: Enhanced provisions for monitoring and reporting on the performance of wastewater treatment plants and the quality of discharged water are included in the recast. This ensures transparency and accountability in achieving environmental objectives:
    - Increased Monitoring Requirements (frequency of sampling, sludge destinations, storm water overflow monitoring etc.);
    - The monitoring of various public health parameters (such as known viruses and emerging pathogens), chemical pollutants, including so-called "forever chemicals" (per- and polyfluoroalkyl substances or PFAS), microplastics and antimicrobial resistance will be strictly monitored; and
    - Introducing health parameters to monitor pandemics.
- Innovation and Best Available Techniques: The recast promotes the use of innovative technologies and best available techniques in wastewater treatment processes to improve efficiency and reduce environmental impact. Objectives for the reduction of pollution from storm water overflows, including an indicative non-binding objective that storm water

overflow represents a percentage that cannot be more than 2% of the annual collected urban wastewater load calculated in dry weather conditions. This indicative non-binding objective shall be met by 31 December 2039 for all agglomerations of 100,000 PE and above and 31 December 2045 for agglomerations of 10,000 PE and above;

- Integration with Other Environmental Legislation: The recast ensures better integration with other EU environmental legislation, such as the WFD, to achieve broader environmental objectives cohesively;
  - Introducing integrated planning obligations to better handle heavy rain plans covering agglomerations of over 100,000 PE to be required by 2030/2035 and for agglomerations between 10,000 PE and 100,000 PE by 2035/2040; and
  - The law proposes extended producer responsibility for medicinal products for human use and cosmetic products, to cover the costs of quaternary treatment (to remove micro-pollutants from urban wastewater). At least 80% of the costs will be covered by producers, complemented by national financing.
- Public Participation and Information: There is an emphasis on public participation and providing accessible information about wastewater treatment practices and their environmental impacts under the recast.
- Energy Audits: Energy audits to be completed on WWTPs and collecting systems every 4 years (>100,000 PE by Dec 2025, 10,000PE – 100,000PE by 2030);
  - Utilise biogas and reduce methane emissions;
  - Total annual energy from renewables, at national level from WWTPs >10,000 PE load, to be equivalent at least to:
    - 50% by end 2030;
    - 75% by end 2035;
    - 100% by end 2040.
  - Alternative proposals suggest for inclusion of an allowance for up to 30% of energy to be purchased from external sources.

Member States will be required to adopt national legislation transposing the requirements of the UWWTD within 30 months from the entry into force of the Directive (i.e.by the first quarter of 2027).

Floods Directive

The EU Floods Directive (2007/60/EC) required member states to develop Flood Risk Management Plans for areas of existing and future potentially significant flood risk. The Floods Directive was transposed into Irish law by the EU (Assessment and Management of Flood Risks) Regulations 2010 and sets out the responsibilities of Office of Public Works (OPW). The OPW has been implementing the Directive mainly through the CFRAM Programme, identifying areas where risks associated with flooding might be significant (Areas of Further Assessment, or AFAs) and developing measures to address these risks. Floods and weather patterns are closely connected to challenges for urban drainage and contribute to issues related to storm water discharges and vulnerability to flooding is also a risk for treatment and supply infrastructure including impacts on associated services such as electricity supply and transport access.

Marine Planning

As part of implementing the Marine Spatial Planning Directive, Ireland's National Marine Planning Framework (2021 and updated 2024)[130] has been produced to provide guidance for activities and developments affecting

[130] DHLGH. 2021. Project Ireland 2040: National Marine Planning Framework. Accessed: May 2026 Available from: https://www.gov.ie/en/publication/60e57-national-marine-planning-framework/

the marine environment up to 2040. The Maritime Area Planning Act was enacted in 2021 and the Maritime Area Regulatory Authority (MARA) was established in July 2023 - together these introduce a new legislative regime around consent for development and activities in the marine area. The NMPF provides policies for sustainable planning and management of marine resources, balancing ecological, economic and social objectives in relation to aspects such as the environment, biodiversity, commercial fisheries and renewable energy. As part of this, the NMPF includes specific objectives and planning policies related to water quality and to wastewater treatment and disposal and these have been taken into account in the development of the Plan and for the SEA.

4.2.2 Climate Change Related Plans and Policies

Climate Action and Low Carbon Development (Amendment) Act 2021

In July 2021 the Climate Action and Low Carbon Development (Amendment) Act 2021 was signed into law. This Act establishes the following national climate objective:

"The State shall, so as to reduce the extent of further global warming, pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy."

To achieve that objective the Act sets out a number of actions. These include:

- The preparation of an annual update to the Climate Action Plan 2019 (currently Climate Action Plan 2025 is the latest annual Plan);
- The preparation, not less frequently than once every 5 years, of a national long term climate action strategy (referred to as a 'national long term climate action strategy);
- The establishment of carbon budgets, aligned with the achievement of the national climate objective, for consecutive 5-year periods;
- The preparation of "sectoral emissions ceilings" which establish the maximum amount of greenhouse gas emissions that are permitted in different sectors of the economy during the 5-year period of a carbon budget;
- The preparation of "local authority climate action plans" covering periods of five years, which are required to specify the mitigation measures and the adaption measures to be adopted by the relevant local authority in relation to climate matters; and
- An obligation that public bodies must take account of Climate Action Plans in the performance of their functions.

The Act provides that the first two 5-year carbon budgets should equate to a total reduction of 51% over the period to 2030, relative to a baseline of 2018. While that overall target has not yet been disaggregated into sectorial targets, it is understood that the transport sector will be required to achieve this 51% reduction in full.

The Climate Action Plan and Low Carbon Development Act will strongly influence the investments set out in the Plan and guide development of its aim to identify sustainable wastewater management and treatment strategies and to develop a prioritised solutions list for medium and long term. The draft Plan has explored ways to minimise the carbon impact of wastewater treatment through prioritisation of sustainable solutions for effective wastewater management.

The Climate Action Plan 2025 (CAP25)[131] is the third annual update to Ireland's Climate Action Plan 2019. The plan was approved by Government in April 2025 and builds on CAP24 which was updated to include an

[131] DECC. 2025. Climate Action Plan 2025. Accessed: May 2026. Available from: https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/climate-action-plan-2025/

additional Sustainable Development Goals (SDG) chapter which provides an assessment of each chapter of the Plan for SDG impact at SDG target level.

CAP25 set out a roadmap of actions which will ultimately lead to meeting national climate objective of pursuing and achieving, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. CAP25 refines and updates CAP24's carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero no later than 2050, as committed to in the Programme for Government.

Progress Reports on the Climate Action Plans are published each quarter. For CAP25, the action progress report highlights 'high impact' measures, Key Performance Indicators, state of play on emissions targets, recent emissions trends, action case studies.

The plan will set the context for subsequent implementation plans and projects that will detail the programmes of works to be completed in specific areas relevant to climate change adaptation and mitigation and wastewater compliance in accordance with the CAP25.

National Adaptation Framework and Sectoral Adaptation Planning

Building on the work completed under the National Climate Change Adaptation Framework, the Department of Communications, Climate Action and Environment published Ireland's first statutory National Adaptation Framework (NAF) in January 2018[132] and has been subject to review and updated with Ireland's second statutory National Adaptation Framework published in June 2024. The NAF sets out the national approach to adaptation in Ireland in order to reduce the negative impacts of climate change. The framework requires each government department to develop a sectoral adaptation plan for their area of responsibility.

As response to the requirements of 2018 NAF, the DHLGH produced the Adaptation Plan for Water Quality and Water Services Infrastructure[133].

The Climate Action and Low Carbon Development (Amendment) Act 2021 requires that all local authorities to prepare climate action plans, to be updated at least every 5 years. These plans were published in April 2024. The NAF review process took place in 2022. The Review also takes account of key developments at International and EU level, notably the publication of the IPCC Working Group I and II reports, the agreement and publication of the new 2021 EU Adaptation Strategy, and feedback on current Adaptation policy in Ireland. A Report on the NAF Review was approved in October 2022 and recommended the development of a new NAF and that provision for the making of joint Sectoral Adaptation Plans would be best accommodated within a new framework. Revision of sectoral adaptation plans is also highlighted as a requirement. The 2024 NAF takes account of the changes and challenges and in particular the need for national climate change adaptation indicators and a national climate adaptation risk assessment.

The draft Plan is relevant to the implementation of measures identified in the Adaptation Plan for Water Quality and Water Services Infrastructure and addressing the recommendations of the new 2024 NAF.

Local Climate Adaptation Strategies

Under the National Adaptation Framework (NAF), which was published in response to the provisions of the Climate Action and Low Carbon Development Act 2015, all Local Authorities were tasked with producing a Climate Adaptation Strategy for their functional areas.

[132] DECC. 2024. National Adaptation Framework 2024. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/fbe331-national-adaptation-framework/

[133] DLGH. 2019. Water Quality and Water Services Infrastructure – Climate Change Sectoral Adaptation Plan. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/f5710-water-quality-and-water-services-infrastructure-climate-change-sectoral-adaptation-plan/

4.2.3 Biodiversity Plans and Policies

4th National Biodiversity Action Plan 2023-2030

The plan[134] sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'Vision for Biodiversity' and follows on from the work of the first, second and third National Biodiversity Action Plans. It has been developed in line with the EU and International Biodiversity strategies and policies.

The 4th NBAP aims to take account of the Global Biodiversity Framework. This recognises that despite three decades of co-ordinated global action for conservation, the loss of biodiversity continues, posing significant threats to human well-being. This Framework is intended to guide actions worldwide for the decade to 2030 to preserve and protect nature and its essential services to people. It includes a vision for biodiversity governance further into the future, aiming for a global effort towards living in harmony with nature by the year 2050. The 4th NBAP set out a Vision for Biodiversity in 2050 where 'Biodiversity in Ireland is valued, conserved, restored and sustainably used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people'.

194 targeted actions are contained in the Plan, underpinned by five strategic objectives. The objectives contain series of outcomes and lay out a clear framework for Ireland's national approach to biodiversity, ensuring that efforts and achievements of the past are built upon, while looking ahead to what can be achieved over the next five years and beyond.

They include:

- Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity;
- Meet Urgent Conservation and Restoration Needs;
- Secure Nature's Contribution to People;
- Enhance the Evidence Base for Action on Biodiversity; and
- Strengthen Ireland's Contribution to International Biodiversity Initiatives.

The draft Plan needs to take account of the objectives and actions under 4th National Biodiversity Action Plan particularly those aimed at improving biodiversity and water quality including meeting urgent protection and restoration needs (Objective 2) and linkage to meeting the third cycle RBMP objectives.

EU's Nature Restoration Law

The European Commission has adopted an EU Nature Restoration Law in August 2024 (Regulation (EU) 2024/1991). This is the first continent-wide, comprehensive law of its kind and is a key element of the EU Biodiversity Strategy and a step towards implementing the EU Green Deal. The law aims to restore ecosystems, habitats and species across the EU's land and sea areas in order to:

- Enable the long-term and sustained recovery of biodiverse and resilient nature;
- Contribute to achieving the EU's climate mitigation and climate adaptation objectives; and
- Meet international commitments.

The regulation combines an overarching restoration objective for the long-term recovery of nature in the EU's land and sea areas with binding restoration targets for specific habitats and species. These measures should cover at least 20% of the EU's land and sea areas by 2030, and ultimately all ecosystems in need of restoration by 2050.

[134] DCHG. 2024. Ireland's 4th National Biodiversity Action Plan 2023–2030. Accessed: May 2026. Available from: https://www.gov.ie/en/publication/93973-irelands-4th-national-biodiversity-action-plan-20232030/

The regulation contains the following specific targets:

- Targets based on existing legislation (for wetlands, forests, grasslands, river and lakes, heath & scrub, rocky habitats and dunes) - improving and re-establishing biodiverse habitats on a large scale, and bringing back species populations by improving and enlarging their habitats;
- Pollinating insects – reversing the decline of pollinator populations by 2030, and achieving an increasing trend for pollinator populations, with a methodology for regular monitoring of pollinators;
- Forest ecosystems – achieving an increasing trend for standing and lying deadwood, uneven aged forests, forest connectivity, abundance of common forest birds and stock of organic carbon;
- Urban ecosystems – no net loss of green urban space and tree cover by 2030, and a steady increase in their total area from 2030;
- Agricultural ecosystems – increasing grassland butterflies and farmland birds, the stock of organic carbon in cropland mineral soils, and the share of agricultural land with high-diversity landscape features; restoring drained peatlands under agricultural use;
- Marine ecosystems – restoring marine habitats such as seagrass beds or sediment bottoms that deliver significant benefits, including for climate change mitigation, and restoring the habitats of iconic marine species such as dolphins and porpoises, sharks and seabirds; and
- River connectivity – identifying and removing barriers that prevent the connectivity of surface waters, so that at least 25 000 km of rivers are restored to a free-flowing state by 2030.

The draft Plan and SEA take account of the need to address the requirements of the Nature Restoration Law as these are brought into national policy and regulations and potentially including through future updates to Uisce Éireann's own Biodiversity Action Plan.

Local Heritage and Biodiversity Plan

Local Heritage and Biodiversity plan will be required to be considered through recommendations for the project level development stage.

4.2.4 Land Use and Economic Planning Plans and Policies

The Planning and Development Act 2024

The Planning and Development Act was adopted in 2024. The Act represents a major overhaul of the planning system in Ireland which aims to strengthen the legal status of ministerial guidelines and policy directives. These will require Government approval and alignment with the policies and measure will be mandatory. Other plans will be required to be materially consistent with them. There will be changes to Local Development Plans and to the structure of the Local Area Plan system. Statutory timelines for all consent processes will be introduced and changes proposed to Judicial Reviews.

The Act provides the legislative framework for spatial planning and sustainable development which will be relevant for implementing development proposals identified through the Plan.

National Development Plan Review 2025

As part of Project Ireland 2040 the NDP Review 2025[135] updates the NDP 2021-2030 Government's over-arching investment strategy and budget for the period 2026 to 2035. It is an ambitious plan that balances the

[135] Department of Public Expenditure, Infrastructure, Public Service Reform and Digitisation. 2025. National Development Plan Review 2025. Accessed: May 2026. Available from: https://www.gov.ie/en/department-of-public-expenditure-infrastructure-public-service-reform-and-digitalisation/publications/national-development-plan-review-2025/

significant demand for public investment across all sectors and regions of Ireland with a major focus on improving the delivery of infrastructure projects to ensure speed of delivery and value for money.

This NDP is identified as being 'the largest and greenest ever delivered in Ireland', with a particular focus on supporting the largest public housing programme in the history of the state. While many of the investments in this NDP are already well known and have been progressing through planning for some time, there are a range of investments which are new or enhanced in this NDP including funding to support housing growth to Uisce Éireann. The Small WWTP National Plan will need to take account of population and economic growth including proposed housing development and the related requirements for wastewater services.

4.2.5 Circular Economy Plans and Policies

EU Soil Strategy for 2030

The EU soil strategy for 2030[136] sets out a framework and concrete measures to protect and restore soils and ensure that they are used sustainably. It sets a vision and objectives to achieve healthy soils by 2050, with specific actions by 2030. The strategy also proposed a new Soil Health Law to ensure a level playing field and a high level of environmental and health protection.

The new EU soil strategy for 2030 is a key deliverable of the EU biodiversity strategy for 2030. It will contribute to the objectives of the European Green Deal. Healthy soils are essential for achieving climate neutrality, a clean and circular economy and halting desertification and land degradation. They are also essential to reverse biodiversity loss provide healthy food and safeguard human health.

The EU soil strategy aims to ensure that, by 2050:

- All EU soil ecosystems are healthy and more resilient and can therefore continue to provide their crucial services;
- There is no net land take and soil pollution is reduced to levels that are no longer harmful to people's health or ecosystems; and
- Protecting soils, managing them sustainably and restoring degraded soils is a common standard.

A proposal for an EC Directive on soil monitoring was published July 2023. This will set out a framework for soil monitoring and aim to support sustainable soil management and required contaminated land to be identified and addressed.

The draft Plan considers how proposed actions can support this strategy especially through treatment options implications for sludge waste management in line with circular economy approaches.

Circular Economy and Miscellaneous Provisions Act 2022

The Circular Economy and Miscellaneous Provisions Act 2022[137] builds on Ireland's commitment to achieving a circular economy, as set out in the National Waste Management Plan Waste for a Circular Economy 2024-2030[138] and the 2026 Whole-of-Government Circular Economy Strategy 2026-2028[69]. The Act demonstrates commitment to a more sustainable pattern of production and consumption, that retains the value of resources in the economy for as long as possible which will also significantly reduce greenhouse gas emissions.

[136] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions. 2021. EU Soil Strategy For 2030 Reaping The Benefits Of Healthy Soils For People, Food, Nature And Climate, Com (2021) 699, Final. Accessed: May 2026. Available from: EUR-Lex - 52021DC0699 - EN - EUR-Lex

[137] Government of Ireland. 2022. Circular Economy and Miscellaneous Provisions Act 2022. Accessed: May 2026. Available from: https://www.irishstatutebook.ie/eli/2022/act/26/enacted/en/html

[138] DECC. 2024. National Waste Management Plan for a Circular Economy - Ireland's National Waste Policy 2024-2030. Accessed: May 2026. Available from: National Waste Management Plan for a Circular Economy 2024-2030 - My Waste

In a circular economy, waste and resource use are minimised. The use and value of products and materials is maintained for as long as possible. When a product has reached the end of its life its parts are used again and again – to create further useful products, rather than being discarded. The Act includes:

- Incentives for the use of reusable and recyclable alternatives to a range of wasteful single-use disposable packaging and other items;
- Re-designates the existing Environment Fund as a Circular Economy Fund, which will remain ring-fenced to provide support for environmental and circular economy projects;
- Introduces a mandatory segregation and incentivised charging regime for commercial waste, similar to the household market. This will increase waste separation and support increased re-cycling rates;
- Places the Circular Economy Strategy and National Food Loss Prevention Roadmap on a statutory footing, establishing a legal requirement for governments to develop and periodically update these 2 policies;
- Streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market; and
- Consolidates the government's policy of keeping fossil fuels in the ground – by introducing prohibitions on exploration for and extraction of coal, lignite and oil shale.

For the development of the draft Plan, the Circular Economy and Miscellaneous Provisions Act 2022 Act is particularly relevant with respect to addressing wastewater treatment wastes.

National Planning Framework – Project Ireland 2040

The National Planning Framework (NPF) is a national document published on 16th February 2018. Ireland's second statutory National Adaptation Framework (NAF) First Revision was published in April 2025[139]. This latest NAF replaces the first iteration of the framework published in 2018, which was reviewed in 2022 in line with the five-year requirement of the 2015 Climate and Low Carbon Development Act (the Climate Act).

The National Planning Framework 2040 is a strategic development framework setting out the long-term context for Ireland's physical development and associated progress in economic, social, and environmental terms. The NPF is being followed and underpinned by supporting policies and actions at sectoral, regional and local level. The NPF is accompanied by the ten-year National Development Plan, together forming one plan to guide strategic development and infrastructure investment at a national level

In the period to 2040, the NPF recognises Dublin as Ireland's key international and global city of scale and principal economic driver, accounting for 25% of growth. A further 25% of growth is estimated to occur across the other four cities combined (Cork, Limerick, Galway, and Waterford), enabling all four to become cities of greater scale by growing their population and jobs by 50-60%.

Under the framework three regional assemblies have been identified, Eastern and Midland, Northern and Western, and Southern. The study area of the Plan spans all regional assemblies.

The 2025 first revision to the NPF has been made in the context of a number of changes in policy and legislation since 2018 when the NPF was originally published and will include taking account of the Climate Action Plan 2024/2025, the National Marine Planning Framework from 2021 and the changes brought about by the adoption of the Planning and Development Bill 2023.

[139] Government of Ireland. 2025. Project Ireland 2040 National Planning Framework First Revision, April 2025. Accessed June 2025. Available from https://cdn.npf.ie/wp-content/uploads/National-Planning-Framework-First-Revision-April-2025-1.pdf

The NPF and regional and local plans are key for the Plan in terms of the population and economic growth and housing development that needs to be supported by wastewater services and also the potential to inform and influence these plans to support more sustainable development.

Regional Spatial and Economic Strategy (RSES) for the Southern Region of Ireland

Under the Local Government Reform Act 2014, the Southern Regional Assembly assumed a number of new functions - chief among these is the preparation and implementation of a Regional Spatial and Economic Strategy (RSES) for the Southern Region of Ireland[140].

The Southern RSES sets out the strategic regional development framework for the Region, with a primary aim to implement Project Ireland 2040 - the National Planning Framework, at the regional tier of Government and to support the achievement of balanced regional development.

The Planning and Development Act 2000 (as amended) requires that all City and County Development Plans and variations are consistent with the RSES and relevant national policy, with draft development plans or proposed variations to development plans referred by the relevant local authority to the Regional Assembly. The Regional Assembly considers the consistency of the draft with the RSES and can make formal recommendations to the local authority on what amendments, in the opinion of the Regional Assembly, are required to ensure consistency of the proposed variation to the development plan and its core strategy with the RSES.

Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region of Ireland

The Northern and Western RSES[141] provides a long-term (up to 20 years) strategic planning and economic framework for the development of the region. It supports the implementation of the National Planning Framework and the Government's economic policies and objectives, in accordance with the principles of proper planning and sustainable development

The development objectives of the RSES will be implemented and amplified through the review by local authorities of all development plans and Local Economic and Community Plans (LECPs), to ensure their consistency with the RSES. In addition, key state agencies and sectoral bodies will review their strategies and investment plans in light of the adoption of the RSES, ensuring consistency with it.

The RSES is adopting a clear strategy for compact growth and delivering those key elements known to inform business location choices. This compact growth strategy is focused on a Metropolitan Area Strategic Plan (MASP) for Galway and tailored Regional Growth Centre Strategic Plans for Sligo, Athlone and Letterkenny (incorporating the strategic cross-border partnership with Derry-Strabane).

Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region of Ireland

The primary statutory objective of the Eastern and Midland Region RSES[142] is to support implementation of Project Ireland 2040 - which links planning and investment through the National Planning Framework (NPF) and ten-year National Development Plan (NDP) - and the economic and climate policies of the Government by providing a long-term strategic planning and economic framework for the Region.

To support inclusive growth throughout the Region, particularly in deprived or underperforming areas and areas that have a higher risk from disruptive technologies, the RSES sets out policies that seek to diversify local economies, address skills shortages and lifelong learning, and promote SMEs and indigenous enterprise

[140] Southern Regional Assembly. 2020. Southern Regional Spatial and Economic Strategy. Accessed: May 2026. Available from: https://www.southernassembly.ie/regional-planning/rses
[141] Northern and Western Assembly. 2020. Northern and Western Regional Spatial and Economic Strategy. Accessed: May 2026. Available from: https://www.nwra.ie/rses/
[142] Eastern and Midland Assembly. 2020. Eastern and Midland Regional Spatial and Economic Strategy. Accessed: May 2026. Available from: https://www.emra.ie/rses/

to support sustainable job creation and local enterprise development. The strategy recognises the role of the Local Economic and Community Plans (LECPS) and Local Enterprise Offices (LEOs), in supporting and stimulating a pipeline to sustain inclusive growth including supports for start-ups, SMEs and social enterprises.

Local Development Plans

The draft Plan's proposed approach will take account of the need to address the requirements of Local Development plans through recommendations for the project level development stage.

4.3 Relevant Uisce Éireann Plans

The hierarchy of plans related to the Plan is illustrated in Figure 4-1. These include:

- Overarching WSSP2050 setting our objectives and strategic aims across Uisce Éireann's water and wastewater services;
- Topic specific plans such as, on climate change or biodiversity, which inform all Uisce Éireann's plans and programme; and
- Implementation plans for wastewater related services-identifying targets and investment needs.

Key Uisce Éireann plans and programmes most relevant to the Plan are discussed below.

4.3.1 WSSP2050 – Overarching Tier 1 plan

The WSSP 2050 is Uisce Éireann's long-term strategic plan which is required to be prepared under the Water Services Act. It sets out objectives and how Uisce Éireann aim to achieve them in the context of the significant challenges likely to be faced over the next 25 years. The plan outlines Uisce Éireann's strategic direction and the actions that will be implemented to ensure sustainable public water services for Ireland. As illustrated in Figure 4-2 below, WSSP2050 includes 4 objectives and 14 strategic aims. The plan also identifies 35 actions to implement these aims. The WSSP2050 was approved in 2025 and objectives of key relevance for the development of the Plan and the SEA are the commitment to support sustainable growth and to protect and restore the environment and to develop sustainable services for the future.

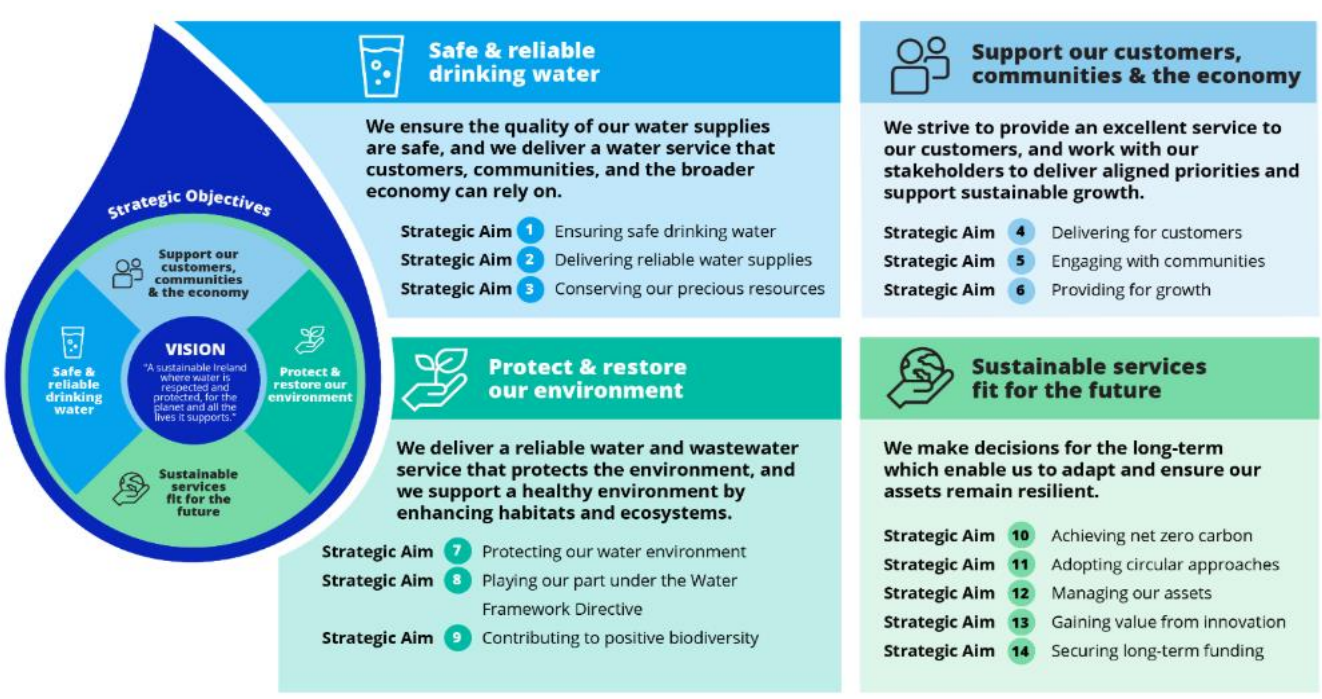

Figure 4-2 WSSP2050 Objectives and Strategic Aims

4.3.2 Topic Specific Plans

Sustainable Energy – Climate Change Mitigation and Adaptation

Improving energy efficiency is one of Uisce Éireann's key sustainability measures for improving their carbon footprint and reducing greenhouse gas emissions. Uisce Éireann aims to become a low carbon, energy efficient, sustainable water utility with targets to improve energy efficiency by 50% by 2030 (2009 baseline) and achieve an absolute reduction (51%) in GHG emissions from energy by 2030 (2016-18 baseline). The strategy includes business wide energy action plans that focus on Capital Energy Efficiency, Operational Energy Efficiency, Renewable Energy, Innovation and Transformation and Energy Management. Significant progress has been made in implementing the sustainable energy strategy with a 30% improvement in energy efficiency performance to date. Uisce Éireann is on track to meet the target of 50% energy efficiency improvement by 2030 and achieving an absolute reduction (51%) in GHG emissions energy by 2030, putting them in a strong position for net zero carbon by 2040.

Energy efficiency improvement is also a key mitigation measure of Uisce Éireann climate change policy to help ensure water and wastewater services are resilient to climate change, developing a low greenhouse gas emitting water and wastewater service. Uisce Éireann is implementing a business wide climate mitigation and adaptation strategy, aligned with the Water Sector Adaptation Plan under the National Adaptation Framework. The draft Plan has been developed considering the adaptation and mitigation actions to be undertaken to minimise the consequences of climate change on Uisce Éireann, their customers and the environment.

Biodiversity Action Plan

Uisce Éireann's Biodiversity Action Plan (BAP)[143] details specific objectives and actions to address the biodiversity emergency. These objectives and actions align with Uisce Éireann policy-level strategic objectives and implementation is in progress. The plan will be reviewed and updated every five years in line with the company's periodic review. The following key objectives have been identified:

- Issue all Uisce Éireann sites with a clear set of measures that will enhance and protect biodiversity;
- Raise awareness and provide educational supports on biodiversity to Uisce Éireann staff and its partners;
- Pursue Biodiversity Net Gain for all projects and plans across Uisce Éireann;
- Implement actions arising from the All-Ireland Pollinator Plan across all Uisce Éireann sites, to support and increase our pollinator population;
- Promote the use of nature-based solutions for water protection and wastewater treatment;
- Manage invasive alien species at Uisce Éireann's sites; and
- Collaborate and work with key internal and external stakeholders, and the wider community, to protect and enhance biodiversity.

4.3.3 Implementation Plans

The Strategic Funding Plan

The Strategic Funding Plan (SFP)[144] presents the arrangements that Uisce Éireann propose to make and the measures that Uisce Éireann propose to deliver over a five-year period to implement the objectives of the

[143] Uisce Éireann's. 2024. Irish Water's Biodiversity Action Plan 2024 update. Accessed: May 2026. Available from: https://www.water.ie/projects/strategic-plans/biodiversity-action-plan

[144] Uisce Éireann's. 2024. Irish Water's Strategic Funding Plan. Accessed: May 2026. Available from: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/uisce-%C3%A9ireann-strategic-funding-plan-2025-2029/

Plan. The SFP is approved by the Minister for Housing, Local Government and Heritage. The current SFP covers the period from 2025 to 2029.

Whilst the SFP sets out the planned level of operational and capital expenditure over this period, the actual allowed operational and capital expenditure is decided on by the economic regulator, the Commission for Regulation of Utilities through the economic regulatory process.

National Wastewater & Drainage Plan

A National Wastewater and Drainage Plan is currently in preparation and this aims to provide a national framework to capture the multifaceted aspects of managing Uisce Éireann's wastewater assets, including an understanding of strategic needs and drivers (including planning policy), an understanding of environmental priorities, risk assessment and management, control of effluent at source, whole asset lifecycle scenario testing, service resilience, climate adaptation and mitigation and biodiversity enhancement. The framework will underpin strategies and management plans in relation to wastewater. The framework, which is entering the early planning, will allow Uisce Éireann to plan sustainably for the long term, which will enhance its ability to protect and restore the environment.

National Wastewater Sludge Management Plan (National Bioresources Strategy)

Uisce Éireann adopted the first National Wastewater Sludge Management Plan (NWSMP) in 2016 outlining our strategy for managing wastewater sludge over a 25-year period[145]. The NWSMP is one of Uisce Éireann 's Tier 2 Implementation Plans.

Uisce Éireann has looked at how wastewater sludge is currently managed throughout the country and estimates that the quantity of wastewater sludge generated is expected to increase by more than 80% by 2040 as new and upgraded plants to treat wastewater are completed. The management of this wastewater sludge poses economic, planning and environmental challenges. The NWSMP presents a national approach to wastewater sludge. This will ensure that, for the first time, treated wastewater sludge across the country is effectively managed, stored, transported and re-used or disposed of in a sustainable way, to the benefit of the public and the environment we all live in.

A draft National Bioresources Strategy has been prepared and published (2026) which will update and replace the NWSMP. This draft strategy sets out Uisce Éireann's long-term strategic approach to managing wastewater sludge and bioresources. The document includes four key strategic objectives and the plan to achieve them.

Sustainable and efficient wastewater sludge and bioresource management is needed to:

- Support our growing population and economy;
- Protect human health and our environment; and
- Contribute to a circular economy and net zero carbon ambitions.

The draft National Bioresources Strategy considers future needs and identifies capital investment requirements over the next 25 years in the context of both the opportunities and the challenges Uisce Éireann is likely to face. The draft Strategy and environmental assessment reports are currently published for consultation until the 22nd of July 2026.

[145] Uisce Éireann. 2016. National Wastewater Sludge Management Plan. Accessed: May 2026. Available from: https://www.water.ie/projects/strategic-plans/national-wastewater-sludg

5 SEA Methodology

This section outlines the approach proposed for the environmental assessment of the plan, proposals including consideration of alternatives and assessment of combined, cumulative and transboundary effects.

5.1 Assessment Approach

The assessment methodology proposed for the SEA of the Small WWTP National Plan is outlined below.

Consideration of existing baseline conditions, future baseline trends and legal requirements within relevant plans, policies and programmes alongside the range of issues and options for action identified for the Plan, have all shaped the development of the scope and objectives for this assessment.

This Section sets out the SEA methodology to be applied, noting that Section 2.4 of this report describes how the development of the draft Plan has been influenced through the SEA process.

Key guidance considered in the approach to the SEA includes:

- SEA pack including scoping guidance and checklists (updated 2023 and published 2024)[146];
- EPA's Developing and Assessing Alternatives in SEA (published 2015)[147];
- EPA's Guidance on SEA Statements and Monitoring (published 2023)[148];
- EPA's Integrating Climatic Factors into SEA in Ireland – A Guidance Note (published 2019)[149];
- EPA's Good practice guidance on Cumulative Effects Assessment in SEA (published 2020)[150];
- EPA guidance 'The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment (published 2021)'[151];
- EPA Guidance on Key Performance Indicators of Strategic Environmental Assessment Effectiveness[152];
- EPA Good Practice Guidance Note SEA and Integration (2025);
- EPA Research Report No. 509 Consistent and Proportionate Consideration of Health in Strategic Environmental Assessment (Pro-Health SEA)[153]; and

[146] EPA. 2024. SEA Pack (Updated January 2023). Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-pack.php

[147] EPA. 2015. Developing and Assessing Alternatives in Strategic Environmental Assessment (SEA). Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA-Alternatives-157-Published_web.pdf

[148] EPA. 2023. Guidance on SEA Statements and Monitoring. Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/guidance-on-sea-statements-and-monitoring.php

[149] EPA. 2019. Integrating Climatic Factors into Strategic Environmental Assessment in Ireland - A Guidance Note. Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/EPA-SEA-Climatic-Factors-Guidance-Note.pdf

[150] EPA. 2020. Good practice guidance on Cumulative Effects Assessment in SEA. Accessed: Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/good-practice-guidance-on-cumulative-effects-assessment-in-sea.php

[151] EPA. 2021. The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment. Accessed: June 2026. Available from: https://www.epa.ie/publications/research/epa-research-2030-reports/Research_Report_391.pdf

[152] EPA.2021. Guidance on Key Performance Indicators of Strategic Environmental Assessment Effectiveness. Accessed: June 2026. Available from: https://www.epa.ie/publications/research/environmental-technologies/Guidance-Note-KPIs-for-SEA-effectiveness---Publication-version-26.09.24.pdf

[153] EPA.2022. Report No. 509. Accessed: June 2026. Available from: https://www.epa.ie/publications/research/epa-research-2030-reports/EPA-Report-SinglePage-509.pdf

- Good Practice Guidance Strategic Environmental Assessment in the Water Sector (published 2022).[154]

All other EPA's SEA Topic and Sector Specific Guidance[155] relevant to the development to the Plan have also been used to guide and influence the SEA process.

5.2 Proposed SEA Objectives

Draft SEA Objectives and assessment criteria have been developed based on the key considerations from the baseline review and the policy, plan and programme review outlined in Sections 3 and 4. These SEA Objectives will provide the framework for assessing the alternative plan approaches and options and the recommended plan proposals. The draft SEA Objectives are provided in Table 5-1.

Table 5-1 Draft SEA Objectives for draft Plan Assessment

SEA topic	SEA Objectives
Water Environment	*Water quality and quantity* Prevent deterioration of the WFD status of water bodies with regard to quality and quantity due to discharges of wastewater from treatment plants. Contribute towards the "no deterioration" WFD condition target and restore and improve water body status to meet WFD and RBMP objectives related to the provision of wastewater services. *Flood risk* Protect and, where possible, reduce risk from flooding as a result of Uisce Éireann's provision of wastewater services.
Population, Economy, Tourism and Recreation Human Health and Wellbeing	*Population, Economy and Tourism* Protect and contribute to supporting sustainable economic and population growth, with (i) preventing restrictions to recreation and amenity facilities and (ii) protecting and enhancing freshwater and marine fisheries and shellfish protected areas. *Human health and wellbeing:* Protect and contribute to enhancement of human health and wellbeing related to the provision of wastewater services.
Climate Change	*Climate change mitigation* Minimise contributions to climate change emissions to air (including greenhouse gas emissions) through energy efficiency, consideration of ecosystem services including carbon sequestration, water reuse and conservation - related to the provision of wastewater services. *Climate change adaptation* Take account of additional pressures on the environment due to climate change and promote measures supportive of climate change resilience related to provision of wastewater services. Take account of additional risks to wastewater services and infrastructure due to climate change and improve resilience to the effects of climate change such as to extreme weather events.
Biodiversity	Protect and enhance terrestrial, aquatic and soil biodiversity and habitat connectivity, with particular regard for European and nationally designated sites (including proposed and candidate sites and protected species). Achieve BAP commitments to Biodiversity Net Gain of habitats related to provision of wastewater services.
Material Assets	*Resource use and waste management* Minimise resource use and waste generation from new or upgraded wastewater infrastructure Seek to apply circular economy principles across lifecycle decision making for resources and wastes.

[154] EPA. 2022. Good Practice Guidance Strategic Environmental Assessment in the Water Sector. Accessed: June 2026. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA_Screening_GoodPractice_Water-2022.pdf

[155] EPA. n.d. SEA Topic and Sector Specific Guidance. Accessed: June 2026. Available from: https://www.epa.ie/our-services/monitoring--assessment/assessment/strategic-environmental-assessment/sea-topic-and-sector-specific-guidance-/

SEA topic	SEA Objectives
	Asset use Minimise impacts on other material assets and infrastructure and optimise use of existing wastewater assets including through capacity and upgrades of existing wastewater sites.
Landscape, Townscape and Seascape	Protect and enhance designated and valued landscapes/townscapes and seascapes and visual amenity in relation to the provision wastewater services.
Cultural Heritage – Archaeological and Architectural	Protect and enhance designated and undesignated cultural heritage assets and archaeological interest, including their condition, settings and access related to the provision of wastewater services.
Geology and Soils	Protect soils and geological heritage sites and contribute towards the appropriate management of soil quality and quantity related to wastewater services.
Air Quality	Identify and seek to apply wastewater treatment improvements, higher design standards and operation practices to minimise odour from wastewater plants.
Noise and Vibration	Scoped out - as the Plan is unlikely to have significant effects related to noise and vibration (see Section 3.20) in terms of plan level effects but will need to be part of project level consideration for construction and operation.

5.3 SEA Assessment Approach

The assessment of the effects that are expected to occur from the implementation of the Plan will be based on technical judgement and knowledge of similar schemes and will draw from the application of the Environmental Assessment Methodology (EAM) and the use of Geographical Information Systems (GIS) analysis to consider impacts of individual scheme options and combined and cumulative effects on water bodies and protected sites and species.

The significance of the effect will be determined based on the sensitivity of the receptor and the scale of the change (see Table 5-2). The magnitude of the predicted effect will take into account the likelihood of the effect occurring, the severity of the effect and the spatial extent (i.e. how large an area, or size of population) would be affected. Using this method, a sensitive receptor (for example a European designated site) may only require a small change to be considered as a significant effect. Alternatively, a less sensitive receptor may tolerate a larger change and may therefore be judged as a minor or no effect.

Effects can be beneficial or adverse as indicated by colour and by the + and – symbol and are shown in Table 5-2. The effects will be assessed both before and after the identification of mitigation and will be identified as either temporary (short or long term) or permanent. A judgement as to the certainty of the assessment made will also be provided.

Table 5-2 Significance of Effect and Assessment Certainty (Option Level Assessments)

Type of effect		Potential significance of effect			
Long term (>15 years)	L	Major beneficial	+++	Major adverse	---
Short term (<5 years)	S	Moderate beneficial	++	Moderate adverse	--
Permanent	P	Minor beneficial	+	Minor adverse	-
Temporary	T	Neutral	0		
Assessment certainty		Low/Medium/High			

Table 5-3 Determination of Significance

Magnitude of impact	Baseline value/sensitivity					
	Low		Medium		High	
Major loss or change to receptor(s)	Minor adverse	-	Moderate adverse	--	Major adverse	---
Moderate loss or change to receptor(s)	Minor adverse	-	Moderate adverse	--	Moderate adverse	--
Minor loss or change to receptor(s)	Minor adverse	-	Minor adverse	-	Moderate adverse	--
No impact or impact does not affect	Neutral	0	Neutral	0	Neutral	0
Minor enhancement to receptor(s)	Minor beneficial	+	Minor beneficial	+	Moderate beneficial	++
Moderate enhancement to receptor(s)	Minor beneficial	+	Moderate beneficial	++	Moderate beneficial	++
Major enhancement to receptor(s)	Minor beneficial	+	Moderate beneficial	++	Major beneficial	+++

Value/sensitivity of receptors

Low value receptors(s) for example locally important and/or resilient to losses and substitution and/or limited capacity for enhancement

Medium value receptor for example regionally important and/or with some resilience or capacity to accommodate losses of substitution or enhancement

High value receptor for example nationally important and/or with very limited resilience or potential to accommodate losses or substitution or substantial capacity for enhancement

5.4 Consideration of Alternatives

The SEA Directive requires the SEA process to identify and describe 'reasonable alternative' means of achieving the objectives of the Plan. It states under Article 5(1) that;

"Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and **reasonable alternatives** taking into account the **objectives** and the **geographical scope** of the plan or programme, are identified, described and evaluated."

The reasons for selecting (a) the alternatives and (b) the preferred approach for the plan must be documented, together with a description of how this assessment of alternatives was undertaken.

The process for the Plan includes the following steps:

- Identification of need for action;
- Consideration of a range of high-level approaches in the development of the Environmental Assessment Methodology (EAM);
- Development of the EAM using a Source-Pathway-Receptor model;
- Development of an approach for identifying cumulative effects;
- Identification of a range of options types for each site with potential to meet requirements for example taking account of growth, recast UWWTD regulations, expected effluent standards, strategic environmental assessment objectives, WFD objectives, protected sites such as European sites, shellfish waters, bathing waters, river flow, drinking water protection and

climate change. The options considered will include a do nothing/do minimum for comparison;

- Development of an approach for assessment and comparing options to identify the preferred option types. The assessment will consider the evolution of the baseline environment without a Plan option in place; and
- Assessment of the combined and cumulative effects of options and preferred approach.

The existing optioneering process documented in Uisce Éireann standards can be taken as a basis, in which a long list of standard options is assessed against the requirement for a WWTP site. These options are as follows;

Do Nothing

- The site is currently capable of achieving existing or new requirements, such as growth, recast UWWTD regulations, expected effluent standards, strategic environmental assessment objectives, WFD objectives. Therefore, no intervention or investment is required.

Do Minimum

- Minor intervention is required, such as capital maintenance or process optimisation, to meet the requirements of the site. The assets onsite are fit for purpose and only minor capital investment is required.

Existing site and discharge:

- The existing geographical site and existing discharge locations are assessed and deemed suitable for meeting requirements;
- Existing assets assessed as having potential for reuse and/or refurbishment alongside capital investment in the form of new additional assets onsite. Additional treatment stages also considered i.e. introducing secondary treatment process step to a previously primary treatment only site;
- Where no/minimal opportunity to reuse existing assets onsite, consideration given to other wastewater treatment technology processes e.g. conventional process such as activated sludge processes, RBC, trickling filter etc. Consideration also given to nature-based solutions, either as treatment, polishing or sludge management in the form of sludge drying reed beds; and
- Where required, site-specific bespoke technology solutions can be developed. Only typically required where requirement is significantly more intensive than standard WWTPs e.g. very stringent ELVs.

New site and discharge locations:

- The existing geographical site and existing discharge locations are deemed unsuitable for meeting requirements and alternative new site and/or discharge location must be identified; and
- Minimal reuse of existing assets expected. Range of wastewater treatment technologies considered against site requirement, including nature-based solutions for wastewater treatment which often require larger site footprint than a conventional wastewater treatment plant.

Other:

- Transfer/Pump away - Transfer of wastewater (fully or partially) to a nearby larger or more sustainable treatment facility, reducing the number of small plants; and
- Tankering - Tankering of untreated wastewater to another facility. Short-term or remote-site solution where permanent upgrades are not viable.

5.5 Cumulative Effects Assessment

Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact. Cumulative effects can be described as either:

- Additive effects: the addition of many minor or significant effects to create larger, more significant effects. Therefore, effects that arise, for instance, where several developments (such as multiple options) each have insignificant effects but together have a significant effect; or where several individual effects of the Plan (for example noise, dust and visual) have a combined effect (in-combination effects); and

- Synergistic effects: "Where the resultant effect is of greater significance than the sum of its constituents." Synergistic effects often happen as habitats, resources or human communities get close to capacity. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species.

Both intra-plan and inter-plan cumulative and transboundary effects will be considered within the SEA:

- Intra-Plan cumulative effects – these arise from the interactions between different types of environmental effects resulting from a plan, programme. Interrelationships include for example between air quality and vegetation; human health and flood risk; and ecology and water quality; and
- Inter-Plan cumulative effects – these arise when the effects of the implementation of one plan occurs in combination with those of other plans, programmes, or projects. With regard to potential inter-Plan cumulative environmental effects, these occur as a result of the combination of environmental effects which are identified by the assessment and the effects arising from other policies, plans and programmes.

Transboundary effects will be considered as part of the cumulative effects assessment.

Cumulative effects will be assessed in accordance with the criteria shown in Table 5-4.

Table 5-4 Cumulative Effects Assessment

Key			
Likely to have a positive effect	+	Likely to have a mixed positive and negative effects	+/-
Likely to have a negative effect	-	Likely to have mixed neutral and negative effects	0/-
Effects are uncertain or not applicable	? or N/A	Likely to have mixed neutral and positive effects	0/+
Likely to have a neutral effect	0		

5.6 Water Framework Directive Assessment

Meeting WFD objectives is a core part of the EAM and SEA objectives (see Table 5-1) and an overarching assessment of the plan will be provided specifically to support assessment of compliance with the WFD regulations. This will be provided as an appendix to the SEA Environmental Report.

5.7 Appropriate Assessment

All Natura 2000 sites (SPAs, SACs and candidate and potential sites) will be subject to a separate AA, in accordance with the Birds and Natural Habitats Regulations 2011. This will be carried out in parallel with the SEA and will feed into the SEA in relation to European site issues for the options and overall plan assessment. The first stage screening has been undertaken and is provided in the AA Screening Report. This has concluded that LSE cannot be ruled out and a second stage AA, will be undertaken on the draft Plan including alone, in combination (including cumulative) effects in accordance with guidance on AA.

Given the strategic nature of the Plan, the current stage of preparation and in light of a number of uncertainties relating to the implementation of the Plan going forward, it is considered that the potential for LSEs on one or more European sites, in view of the sites' conservation objectives, cannot be excluded either

alone or in-combination. In the absence of more detailed information on the Plan and management options listed therein at this stage, the precautionary principle must be applied. The possibility of transboundary effects has also been identified.

Therefore, in accordance with Article 6(3) of the Habitats Directive, Stage 2 AA of the Plan is required. This will be presented in an NIS to fully inform the AA determination to be undertaken by Uisce Éireann.

6 Next Steps

6.1 Small WWTP National Plan Development and SEA Assessment

The next stage of the process will be the review of consultation comments received on this SEA Scoping Report, the Issues Paper and the AA Screening Report. These comments will be used as a basis for developing the draft Plan and for undertaking the assessments required for the SEA and AA. An outline and roadmap of the process and future public consultation on the draft Small WWTP National Plan and accompanying SEA Environmental Report and NIS is set out in Figure 6-1 below.

Figure 6-1 Consultation Road Map for the Small WWTP National Plan and environmental assessments

6.2 The SEA Environmental Report

The outcomes of the assessment stage and recommended approach will be presented in the Small WWTP National Plan and SEA Environmental Report.

6.2.1 Proposed Outline Structure for the SEA Environmental Report

1. Introduction/background – covering the need for the plan and SEA;
2. The draft Small WWTP National Plan- Outline of how the draft Plan was developed and summary of approach and proposals;
3. Consultation- outline of consultation informing the development of the Plan and the SEA scoping comments and responses (summary with table of comments and responses in an appendix);
4. Review of Policy, Plans and Programmes context review – (summary with more detail in an appendix);
5. Baseline Environment – Summary of baseline, trends, pressures and future evolution without the plan (with the full information included as an appendix)
6. Assessment Methodology – Outline of approach to the SEA Assessment applied;
7. Assessment of the Plan including high level alternatives and development of options;
8. Cumulative Effects Assessment – Including intra plan effects and inter plan effects with other plans;
9. Transboundary effects;

10. Mitigation and Monitoring Plans – Covering proposed actions to be undertaken for the plan; implementation and providing recommendations for downstream project level mitigation; and
11. Draft Monitoring Plan.

Appendices – supporting information including the Screening Statement, Scoping report comments and responses, Baseline information, Policy and plan review and WFD compliance assessment

SEA Scoping Questions – Chapter 6

1. **Any comments on the next steps or the outlined SEA Environmental Report structure?**
2. **How would you like to be involved in the development of the Small WWTP National Plan as this progresses?**

Appendix A SEA Screening Statement

A.1 The SEA Screening Process

Under the Strategic Environmental Assessment (SEA) Directive 2001/42/EC and Ireland's transposing regulations S.I. No. 435/2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended) (henceforth referred to as the SEA Regulations), a Plan or Programme (or modification thereto) requires an SEA if it meets criteria set out under Regulation 9(1)(a) or where it is considered likely to have significant effects on the environment.

The screening assessment takes account of the EPA's Good Practice Guidance on SEA Screening published December 2021 (the EPA Guidance). This sets out a four-stage screening process which has been used as the basis for screening for the proposed Small Wastewater Treatment Plants National Plan: Supporting Communities while Protecting our Natural Environment (referred to as the Small WWTP National Plan or the Plan).

In terms of the SEA Regulations, definition of what constitutes a plan or programme is based on the purpose and status rather than name (hence for example a strategy or study may effectively be a plan or programme under the regulations).

The Stages consist of:

- **Stage 1:** Applicability test to consider if mandatory SEA is required for the Plan or Programme;
- **Stage 2:** If mandatory SEA is not required or if it is unclear, then more detailed screening is required (including consultation);
- **Stage 3:** Where screening of a non-mandatory Plan or Programme is required then a SEA Determination is required; and
- **Stage 4:** Determination confirming decision for non-mandatory SEA plans or programmes.

Figure A. 1 provides a flow chart of the process based on the EPA 2021 guidance:

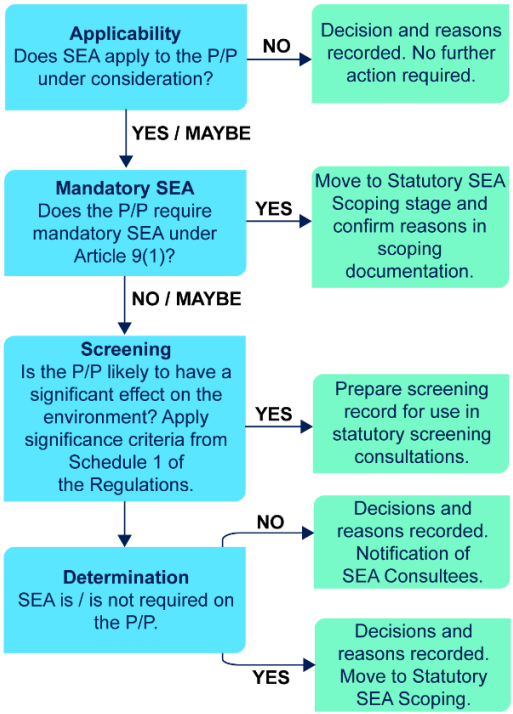

Figure A. 1 Screening Process

This statement reports on the first stage being 'applicability' and follows the template provided in the EPA Guidance. This statement determines if the proposed plan falls within the scope of the SEA Directive and transposing legislation, and to confirm if it constitutes a plan that requires mandatory SEA.

A.2 The Proposed Plan

The proposed Small WWTP National Plan is a topic level plan which will sit beneath the National Wastewater & Drainage Plan (NWDP), currently in development, and which will provide a long term whole system framework for wastewater services across Ireland. It will be consistent with Uisce Éireann's Water Services Strategic Plan (WSSP), the draft National Bioresources Strategy and the draft Cork Wastewater Strategy and draft Galway Wastewater Strategy.

Table A. 1 SEA Applicability (EPA template for SEA applicability 2021)

Details of the Plan	
Name of Plan Maker	Uisce Éireann
Title of Plan /Type of Plan	Small Wastewater Treatment Plants National Plan
Date	June 2026
Status of the Plan Maker	
Is the P/P prepared and/or adopted by an authority at national, regional or local level or prepared by an authority for adoption through a legislative procedure by Parliament or Government?	Yes. The plan is to be prepared and adopted by Uisce Éireann. Uisce Éireann was established under the Water Services (No. 2) Act 2013 on the 1st of January 2014 and assumed statutory responsibility for the provision of public water services and management of water and wastewater investment. Uisce Éireann's role is to provide public water and wastewater services throughout the country.
Is the P/P required by legislative, regulatory, or administrative provisions?	Implicitly yes. Although it is not a named plan, the plan has been identified as required by Uisce Éireann as part of its statutory functions to provide a national level framework for the management of small (less than 1,000 population equivalent) WWTPs in Ireland specifically which differ in their nature, scale and risk profile to larger WWTPS.
Nature of the Plan	
Is the P/P prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use?	Yes, the plan provides a strategic framework for wastewater treatment in Ireland, specifically for the management of small (less than 1,000 population equivalent) WWTPs.
Does the P/P provide a framework for the development consent for projects listed in the EIA Directive?	The plan is a strategic framework for the planning and management of small WWTPS, and projects identified through implementation of the Small WWTP National Plan will fall below the threshold for mandatory EIA under Annex I of the EIA Directive (WWTPs of >150, 000 PE) given that the Plan addresses WWTPs of <1000 PE). However, at this stage of plan development it is considered likely that some projects could have potential for

	significant effects on the environment and could therefore require EIA under Annex II of the EIA Directive.
Is the P/P likely to have a significant effect on a Natura 2000 site which leads to a requirement for Article 6 or 7 assessments?	Yes, the Plan has been screened by Uisce Éireann as requiring application of the Appropriate Assessment process. Projects identified through implementation of the Plan have potential for significant effects that will be required to be assessed through the Appropriate Assessment process.
Exemptions	
Is the sole purpose of the P/P to serve national defence or civil emergency or is it a financial/budget P/P or is it co-financed by the current SF/RDF programme?	No, the purpose of the Plan is not to serve national defence or civil emergency, and is not a financial budget, or co-financed by the current Structural Funds and Regional Development Funds programme.

A.3 Applicability Conclusion

Based on the Table A. 1 responses above, although the Plan is not directly required by legislative, regulatory or administrative provisions, the EPA guidance identifies that plans that are required as part of fulfilling statutory functions are implicitly required. In this case, Uisce Éireann has identified a need for undertaking such a plan to meet their statutory requirements, and the plan is a type that falls within the remit of the SEA Directive/SEA Regulations and therefore requires mandatory SEA. Therefore, the Plan will be taken forward to the next stage in the SEA process which is SEA Scoping and statutory consultation with the designated environmental authorities. The Screening outcome will be reported within the SEA Scoping Report. No second stage screening is required.

A.4 Summary of Screening Outcome

Based on Section 9 (1) (a) and (b) of the SEA Regulations, which states that: Environmental assessment shall be carried out for all plans and programmes:

'(a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, and which set the framework for the future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive

'(b) which are not directly connected with or necessary to the management of a European site but, either individually or in combination with other plans, are likely to have a significant effect on any such site"

It is the view of Uisce Éireann that the Small WWTP National Plan is a qualifying plan under both section 9 (1) (a) and section 9 (1) (b) because as identified in Table A.1 above implementation of the plan could result in identification of projects that may:

c) fall under Annex II of the EIA Directive; and
d) have potential for likely significant effects on one or more European sites.

The plan is therefore subject to SEA in accordance with the regulations.

Appendix B Relevant Legislation, Plans and Programmes

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
International											
Environmental Liability Directive (2004/35/EC)	✓	✓	✓	✓				✓	✓		H
Water Framework Directive (2000/60/EC)	✓	✓	✓	✓	✓	✓		✓			H
Bathing Water Directive (2006/7/EC)	✓	✓									H
Floods Directive (2007/60/EC)	✓	✓	✓		✓	✓	✓	✓			H
Nitrates Directive (91/676/EEC and derogation 2018/209)	✓	✓		✓				✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Urban Wastewater Treatment Directive (91/271/EEC consolidated in 2024)	✓	✓		✓	✓	✓					H
Marine Strategy Framework Directive (2008/56/EC)	✓		✓	✓		✓					H
Groundwater Directive (2006/118/EC)	✓	✓		✓				✓			H
Maritime Spatial Planning Directive 2014/89/EU	✓	✓				✓	✓				H
Common Fisheries policy (2023)	✓	✓		✓		✓	✓				H
Aarhus Convention	✓	✓	✓	✓				✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
WHO Global Air Quality Guidelines (published 2021)		✓							✓		L
Drinking Water Directive (2020/2184)	✓	✓	✓		✓			✓			H
Strategic Environmental Directive (2001/42/EC)	✓	✓	✓	✓	✓	✓	✓	✓	✓		H
Environmental Impact Assessment Directive (2014/52/EU)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	H
EU Nature restoration law	✓		✓	✓	✓	✓	✓	✓		✓	H
The Habitats Directive (92/43/EEC)	✓	✓	✓	✓		✓	✓	✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
The Birds Directive (2009/147/EC)				✓							L
Fish Directive (2006/44/EC)	✓			✓							H
Waste Framework Directive (2008/98/EC)	✓	✓		✓	✓		✓				H
European Landscape Convention (ELC) (published 2000)	✓	✓				✓	✓	✓			L
Ambient Air Quality Directive (2008/50/EC)		✓		✓					✓		L
Industrial Emissions Directive (2010/75/EU)	✓	✓		✓				✓	✓	✓	L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Environmental Noise Directive (2002/49/EC)		✓								✓	L
The Kyoto Protocol 1997	✓		✓	✓				✓	✓		L
Paris Agreement 2015	✓	✓	✓	✓				✓	✓		H
EU Energy and Climate (2020) Package 2009	✓	✓	✓	✓		✓		✓	✓		L
Renewable Energy Action Plan (Directive 2018/2001)	✓	✓	✓	✓	✓			✓		✓	L
EU Action Plan - Towards a Zero Pollution for Air, Water and Soil 2021	✓	✓	✓	✓				✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
EU Conventions on Archaeological, Architectural and Cultural Heritage							✓				L
Proposed EU Soil Health Directive	✓		✓	✓	✓			✓		✓	H
EU Urban Waste Water Directive (91/271/EEC) (as amended)	✓	✓		✓	✓				✓		H
EU Drinking Water Directive (2020/2184) (as amended	✓	✓			✓						H
EU Sustainability Policy	✓	✓	✓	✓		✓		✓	✓		L
UN Sustainable Development Goals 2015-2030	✓	✓	✓	✓	✓	✓	✓	✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Sustainable Development Goals National Implementation Plan 2018-2020	✓	✓	✓	✓	✓	✓	✓	✓	✓		H
National Implementation Plan for the Sustainable Development Goals 2022-2024	✓	✓	✓	✓	✓	✓	✓	✓	✓		H
European Green Deal 2020-2050	✓	✓	✓	✓		✓		✓	✓		H
World Health Organization Guidelines for Drinking Water Quality (4th edition, 2017)	✓	✓	✓	✓	✓	✓		✓			H
Water safety plan manual: step-by-step risk management for drinking-water suppliers (2nd edition, 2023)	✓	✓	✓		✓			✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
EU Tourism Policy		✓				✓	✓				L
EU Biodiversity Strategy for 2030	✓	✓	✓	✓				✓	✓		H
Green Infrastructure: Enhancing Europe's Natural Capital Strategy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	H
EU Soil Strategy for 2030	✓		✓	✓		✓		✓			H
Convention for the Protection of the Architectural Heritage of Europe (Granada, 1985)							✓				L
Convention for the Protection of the Archaeological Heritage							✓				L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
of Europe (revised) (Valletta, 1992)											
National											
Wildlife Act 1976 (as amended including 2010)	✓		✓	✓				✓			L
The Climate Action and Low Carbon Development Act 2015	✓	✓	✓	✓	✓			✓			H
Transcribed Irish legislation - European Communities (Environmental Liability) Regulations 2008 S.I. No. 547/2008 (as amended 2015 S.I. No. 293/2015)	✓	✓	✓	✓				✓	✓		H
Transcribed Irish legislation - European Communities	✓	✓	✓	✓	✓			✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
(Environmental Assessment of Certain Plans and Programmes) Regulations 2004 S.I. No. 435/2004 (as amended 2011 S.I. No. 200/2011)											
Environmental Protection Agency Act 1992 - 2007	✓	✓	✓	✓				✓	✓		H
Climate Action and Low Carbon Development (Amendment) Bill 2021		✓	✓	✓	✓			✓			H
Transcribed Irish legislation - European Communities (Industrial Emissions) Regulations 2013 S.I. No. 138/2013	✓	✓						✓	✓		L
Transcribed Irish legislation - European Communities (Water Policy) Regulations 2003	✓	✓	✓	✓		✓		✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
S.I. No. 722/2003 (as amended 2010 S.I. No. 326/2010)											
Transcribed Irish legislation - Bathing Water Quality Regulations 2008 S.I. No. 79/2008 (as amended 2016 S.I. No. 163/2016)	✓	✓									H
Transcribed Irish legislation – European Union (Water Policy) (Abstractions Registration) Regulations 2018 (S.I. No. 261/2018)	✓							✓			H
Transcribed Irish legislation - European Communities (Assessment and Management of Flood	✓	✓	✓			✓	✓	✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Risks) Regulations 2010 S.I. No. 122/2010											
Transcribed Irish legislation - European Communities (Marine Strategy Framework) Regulations 2011 S.I. No. 249/2011 (as amended 2018 S.I. No. 648/2018)	✓		✓	✓		✓					H
Transcribed Irish legislation - European Communities Environmental Objectives (Groundwater) Regulations 2010 S.I. No. 9/2010 (as amended 2016 S.I. No. 366/2016)	✓	✓		✓	✓			✓			H
Water Environment (Abstractions and Associated	✓		✓	✓	✓						L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Impoundments) Act, 2022 (the Abstractions Act)											
Transcribed Irish legislation - Planning and Development (Strategic Environmental Assessment) Regulations 2004 S.I. No. 436/2004 (as amended 2011 S.I. No. 201/2011)	✓	✓	✓	✓	✓	✓	✓	✓	✓		H
Transcribed Irish legislation - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 S.I. No. 296/2018 (as amended S.I. No. 646/2018)	✓	✓	✓	✓		✓	✓	✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Water Services Act, 2013 (as amended 2017)	✓	✓									H
National Water Resources Plan (2021) and Regional Plans (2021-2023) - Uisce Éireann	✓	✓									H
Transcribed Irish legislation - European Union (Renewable Energy) Regulations 2020 S.I. No. 365/2020	✓		✓		✓	✓					L
Water Services Strategic Plan (2015) Uisce Éireann	✓	✓									H
Planning and Development Act 2000 (as amended)	✓	✓		✓		✓	✓	✓	✓	✓	H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Planning and Development Regulations 2001 (as amended)	✓	✓		✓		✓	✓	✓	✓	✓	H
General Scheme of the Water Environment (Abstractions) Bill 2020	✓	✓	✓	✓		✓	✓	✓			H
Transcribed Irish legislation - European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 S.I. No. 31/2014 (as amended 2023 S.I. No. 62/2023)	✓	✓						✓			H
Transcribed Irish legislation - Urban Wastewater Treatment Regulations 2001 S.I. No. 254/2001 (as amended 2010 S.I. No. 48/2010)	✓	✓		✓						✓	H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Transcribed irish legislation - European Union (Drinking Water) Regulations 2014 S.I. No. 122/2014 (as amended 2017 S.I. No. 464/2017) The European Union Drinking Water Regulations 2023 (S.I 99/2023),	✓	✓								✓	H
Fisheries Consolidation Act, 1959	✓				✓						H
National Strategic Plan for Sustainable Aquaculture Development 2030	✓										L
Transcribed Irish legislation - European Communities (Birds and Natural Habitats)				✓							H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Regulations 2011 S.I. No. 477/2011(as amended 2015 S.I. No. 355/2015)											
Waste Management Act 1996 (as amended 2023)	✓	✓		✓	✓			✓	✓		H
The Maritime Area Planning Act 2021	✓	✓			✓	✓					H
Transcribed Irish legislation - European Communities (Air Quality Standards) Regulations 2011 S.I. No. 180/2011		✓	✓		✓				✓		L
National Clean Air Strategy for Ireland (published 2023)		✓	✓		✓				✓		L
National Air Pollution Control Programme (published 2021)		✓	✓						✓		L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Transcribed Irish legislation - European Communities (Environmental Noise) Regulations 2006 SI. No. 140/2006		✓			✓					✓	L
Transcribed Irish legislation - European Communities (Environmental Noise) Regulations 2018 S.I. No. 549/2018		✓			✓					✓	L
Proposed Planning and Development Bill 2022	✓	✓	✓	✓		✓	✓	✓	✓	✓	H
Heritage Act 2018	✓			✓	✓		✓				L
Historic and Archaeological Heritage		✓		✓	✓	✓	✓				L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
and Miscellaneous Provisions Act 2023											
National Monuments Act 2004 (as amended)		✓		✓		✓	✓	✓			L
Architectural Heritage and Historic Monuments Act 1999		✓					✓				L
Our Sustainable Future, a Framework for Sustainable Development for Ireland	✓	✓	✓	✓	✓		✓	✓			H
Ireland 2040: Our Plan, National Planning Framework	✓	✓	✓				✓	✓			H
Water Services Policy Statement 2018 - 2025	✓	✓	✓								H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Capital Investment Plan 2020-2024 (Uisce Éireann)		✓									L
Climate Action Plan 2025	✓	✓	✓					✓			H
Grid Implementation Plan 2017-2022 For the Electricity System in Ireland		✓									L
State of the Environment Report (SOE) Ireland's Environment – An Integrated Assessment 2020 (published 2020)	✓	✓	✓	✓				✓	✓	✓	H
National Spatial Strategy for Ireland 2002-2020 (Department of the Environment and Local Government)		✓	✓								H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
River Basin Management Plan 2018 - 2021	✓	✓	✓	✓							H
River Basin Management Plan 2022-2027	✓	✓	✓	✓							H
Fifth Nitrates Action Programme 2022-2025	✓	✓	✓	✓							H
Project Ireland 2040 National Marine Planning Framework (2021)	✓	✓	✓	✓		✓	✓		✓	✓	H
Marine Planning Act 2021	✓	✓	✓	✓		✓	✓		✓	✓	H
EPA Drinking Water Advice Note No. 8: Developing Drinking Water Safety Plans (2011)	✓	✓									H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Groundwater Protection Schemes (published 1999)	✓							✓			H
Healthy Ireland Framework 2013-2025	✓	✓							✓		H
Draft Agri-Food Strategy 2030	✓		✓	✓							H
Food Vision 2030		✓	✓								L
Food Wise 2025		✓	✓								L
Food Harvest 2020		✓	✓								L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Fàilte Ireland's 10 Year Tourism Strategy		✓									L
Fáilte Ireland Visitor Experience Development Plans		✓									L
National Outdoor Recreation Strategy 2023-2027	✓	✓		✓							L
National Countryside Recreation Strategy (published 2018)		✓	✓								L
People, Place and Policy – Growing Tourism to 2025		✓									L
Tourism Development and Innovation. A Strategy for Investment 2016-2022		✓									L

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Tourism Action Plan 2019-2021		✓	✓								L
Tourism Recovery Plan 2020-2023		✓	✓								L
Town Centre First: A Policy for Irish Towns (published 2022)		✓	✓			✓					L
Tourism Action Strategy 2016-2018		✓	✓								
Creating Green Infrastructure for Ireland: Enhancing Natural Capital for Human Wellbeing	✓	✓	✓	✓				✓			H
National Biodiversity Action Plan 2017-2021	✓			✓							H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Ireland's 4th National Biodiversity Action Plan 2023-2030			✓	✓							H
All-Ireland Pollinator Plan 2021-2025		✓		✓				✓			L
Biodiversity Climate Change Sectoral Adaptation Plan (published 2019)	✓		✓	✓							L
Infrastructure and Capital Investment Plan 2016-2021	✓	✓						✓			H
CAP Strategic Plan 2023-2027	✓	✓	✓								H
National Development Plan 2021-2030		✓			✓						H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Healthy Cities Project (WHO)		✓			✓						H
National Peatlands Strategy 2015-2025	✓	✓	✓	✓				✓			L
Forestry Programme 2023-2027		✓	✓	✓							L
Waste Action Plan for a Circular Economy 2020	✓	✓	✓	✓		✓		✓	✓		H
National Hazardous Waste Management Plan 2021 – 2027 (EPA)	✓	✓	✓	✓				✓	✓		L
Circular Economy and Miscellaneous Provisions Act (2022)	✓		✓	✓				✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Whole of Government Circular Economy Strategy 2026-2028	✓		✓	✓				✓			H
National Landscape Strategy for Ireland 2015-2025	✓	✓	✓	✓		✓	✓	✓			L
Regional Seascape Character Assessment for Ireland (published 2020)	✓	✓									L
National Climate Change Adaptation Framework (published 2012)	✓	✓	✓	✓		✓	✓	✓	✓		H
Ireland's National Policy Position on Climate Action and Low Carbon Development 2014	✓	✓	✓	✓				✓			H
National Mitigation Plan (published 2017)	✓	✓	✓	✓				✓	✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Energy White Paper: Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007-2020		✓	✓								H
Offshore Renewable Energy Development Plan (2014) and Interim Review (2018)		✓	✓	✓		✓					L
Ireland's Second National Energy Efficiency Action Strategy 2009-2020		✓									L
National Energy and Climate Plan 2021-2030		✓									L
Uisce Éireann Interim Pesticide Strategy: A collaborative approach with catchment stakeholders (published 2021)	✓	✓						✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Heritage Ireland 2030	✓	✓	✓	✓		✓	✓	✓			L
Regional and Local											
Regional Spatial and Economic Strategy (RSES) for the Southern Region of Ireland	✓	✓	✓	✓		✓	✓	✓			H
Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region of Ireland	✓	✓	✓	✓		✓	✓	✓			H
Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region of Ireland	✓	✓	✓	✓		✓	✓	✓			H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Regional Tourism Strategy (currently being developed by Fáilte Ireland)	✓	✓									L
Catchment Flood Risk Management (CFRAM) Programme	✓	✓	✓	✓	✓	✓	✓	✓			H
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (the 'FRM Guidelines') (published 2009)		✓									L
Local Development Plans	✓	✓	✓	✓		✓	✓	✓			H
Transboundary											
Planning Act (NI) 2011		✓					✓				H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Climate Change Act (Northern Ireland) 2022		✓	✓								H
The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009	✓				✓						H
Water Abstraction and Impoundment (Licensing) (Amendment) Regulations (Northern Ireland) 2007	✓			✓							H
The Water Supply (Water Quality) Regulations (Northern Ireland) 2017	✓	✓									H
The Private Water Supplies Regulations (Northern Ireland) 2017	✓	✓									H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Fisheries Act (NI) 1966 (as amended)	✓			✓							H
Marine Act (Northern Ireland) 2013	✓			✓							H
Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995							✓				H
Protection of Wrecks Act 1973	✓										L
The Wildlife (NI) Order 1985 (as amended)				✓							H
Wildlife and Natural Environment Act (NI) 2011				✓							H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended)				✓							H
The Environment (NI) Order 2002	✓		✓					✓	✓		H
The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017	✓	✓	✓	✓		✓	✓	✓	✓	✓	H
The Marine and Coastal Access Act 2009	✓			✓							H
Convention for the Conservation of Salmon in the North Atlantic Implementation Plan for the period 2019 – 2024	✓			✓							H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
Marine and Coastal Access Act 2009	✓			✓							H
Regional Development Strategy: Building a Better Future, 2035	✓	✓	✓				✓		✓		L
Northern Ireland's Climate Change Adaptation Programme 2019 – 2024		✓	✓	✓							L
Climate Risk Independent Assessment 2021	✓		✓	✓				✓			L
NI Water (2020) Our Strategy 2021-2046	✓	✓	✓								H
NI Water (2020) Water Resource and Supply Resilience Plan	✓	✓	✓								H

Policy, Plans and Programmes	SEA Topics										Review Screening
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Sustainable Water – A Long term water strategy for Northern Ireland (2015 –2040)	✓	✓									H
NI Draft Flood Risk Management Plan 2021-2027	✓	✓	✓				✓				H
UK Marine Policy Statement	✓			✓			✓				H
The Marine Strategy Regulations 2010	✓										H
Climate Change Risk Assessment 3 Report		✓	✓								
Adapting to Climate Change – Progress in Northern Ireland Report		✓	✓								

Policy, Plans and Programmes	SEA Topics										Review Screening
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Archaeology 2030 - A Strategic Approach for Northern Ireland		✓					✓				L
The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023							✓				L
Draft 3rd cycle River Basin Management Plan 2021-2027	✓			✓				✓			H
The Strategic Planning Policy Statement (SPPS) for Northern Ireland		✓	✓								L
Biodiversity Strategy for NI to 2020	✓	✓		✓					✓		H
Draft Environment Strategy	✓	✓	✓	✓			✓		✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
International, National, Regional and transboundary – Legislation and Policy/Plans/Strategies	Water Environment	Population, Economy, Tourism and Recreation, and Human Health	Climate Change	Biodiversity, Flora and Fauna	Material Assets	Landscape, Townscape and Seascape	Cultural Heritage – Archaeological and Architectural	Geology and Soils	Air Quality	Noise and Vibration	Policy, Plans or Programmes with some relevance to the Small WWTP National Plan and SEA - screening Direct /higher relevance- H Indirect relevance - L
The Draft NI peatland policy	✓		✓	✓				✓			L
Strategic Planning Policy Statement		✓	✓								L
Northern Ireland Regional Landscape Character Assessment				✓		✓	✓	✓			L
The Draft Green Growth Strategy Consultation on the draft Green Growth Strategy for Northern Ireland	✓	✓	✓	✓					✓		L
Northern Ireland Energy Strategy 2050 Northern Ireland Energy Strategy 2050			✓								L

Policy, Plans and Programmes	SEA Topics										Review Screening
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Strategic Planning Policy Statement for Northern Ireland 2015		✓	✓			✓	✓				L
An Integrated Coastal Zone Management Strategy for Northern Ireland 2006-2026	✓	✓	✓	✓		✓					H
Northern Ireland Regional Seascape Character Assessment 2014	✓					✓	✓				H
Draft Northern Ireland Marine Plan (2018)	✓	✓	✓	✓		✓					H
The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017	✓										H

Policy, Plans and Programmes	SEA Topics										Review Screening
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Nutrient Action Programme Regulations (Northern Ireland) 2019	✓							✓			H
Draft Policy Statement on Geothermal Energy for a Circular Economy		✓	✓					✓			L
UK Marine Strategy	✓	✓	✓	✓		✓					H
Draft Offshore Renewable Energy Development Plan		✓	✓								L
Dumping at Sea Act Revised	✓										H
Zero Pollution Action Plan									✓		H

Policy, Plans and Programmes	SEA Topics										Review Screening
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Forest Strategy 2023-2030				✓							L
Environmental Protection Agency (Designated Development) (Industrial Emissions) (Licensing) Regulations 2023									✓		L
Kyiv (SEA) Protocol and the European Climate Law	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	H

Appendix C Bathing Waters

Local Authority	Water body type	PA Code	Name	Compliance (Water Quality 2025)
Clare	Lake	PA3_0001	Mountshannon, Lough Derg	Excellent
		PA3_0002	Ballyallia Lake, Ennis	Excellent
		PA3_0003	Ballycuggeran	Excellent
	Coastal	PA3_0004	Spanish Point	Excellent
		PA3_0005	Kilkee	Excellent
		PA3_0006	White Strand, Doonbeg	Excellent
		PA3_0007	Lahinch	Good
		PA3_0008	Bishopsquarter	Excellent
		PA3_0009	Fanore	Excellent
		PA3_0010	Cappagh Pier, Kilrush	Excellent
		PA3_0011	White Strand, Miltown Malbay	Excellent
		PA3_0143	Seafield, Quilty	Excellent
		PA3_0207	Quilty	Excellent
		PA3_0208	Carrigaholt	Excellent
Cork	Coastal	PA3_0013	Redbarn	Excellent
		PA3_0014	Barley Cove	Excellent
		PA3_0015	Tragumna	Excellent
		PA3_0016	Garryvoe	Good
		PA3_0017	Garretstown	Excellent
		PA3_0018	Fountainstown	Good
		PA3_0019	Youghal Front Strand Beach	Excellent
		PA3_0020	Inchydoney	Excellent
		PA3_0021	Youghal, Claycastle	Excellent
		PA3_0022	Garrylucas, White Strand	Excellent
		PA3_0023	Warren, Cregane Strand	Good
		PA3_0024	Owenahincha, Little Island Strand	Excellent
		PA3_0199	Inchydoney East Beach	Excellent
Donegal	Coastal	PA3_0025	Murvagh	Excellent
		PA3_0026	Killahoey	Excellent
		PA3_0027	Ballyhiernan, Fanad	Excellent
		PA3_0028	Downings	Excellent
		PA3_0029	Rathmullan	Good
		PA3_0030	Lady's Bay, Buncrana	Sufficient
		PA3_0031	Bundoran	Excellent
		PA3_0032	Portsalon	Good
		PA3_0033	Rossnowlagh	Excellent
		PA3_0034	Lisfannon	Good
		PA3_0035	Marble Hill	Excellent
		PA3_0036	Portnablagh	Good
		PA3_0037	Drumnatinny	Excellent
		PA3_0038	Portarthur, Derrybeg	Excellent
		PA3_0039	Fintra	Excellent
		PA3_0040	Naran	Excellent

Local Authority	Water body type	PA Code	Name	Compliance (Water Quality 2025)
		PA3_0041	Culdaff	Excellent
		PA3_0042	Stroove	Excellent
		PA3_0043	Carrickfinn	Excellent
		PA3_0141	Magheraroarty	Excellent
		PA3_0142	Dooey	Excellent
Dublin City	Coastal	PA3_0044	Sandymount Strand	Sufficient
		PA3_0045	Dollymount Strand	Good
		PA3_0146	Half Moon	Excellent
Dun Laoghaire/ Rathdown	Coastal	PA3_0056	Killiney	Excellent
		PA3_0057	Seapoint	Excellent
		PA3_0147	Sandycove Beach	Good
		PA3_0148	White Rock Beach	Excellent
		PA3_0197	Forty Foot Bathing Place	Excellent
		PA3_0224	Dun Laoghaire Baths	NA
Fingal	Coastal	PA3_0047	Sutton, Burrow Beach	Excellent
		PA3_0048	Skerries, South Beach	Excellent
		PA3_0049	Balbriggan, Front Strand Beach	Sufficient
		PA3_0050	Donabate, Balcarrick Beach	Excellent
		PA3_0051	Portmarnock, Velvet Strand Beach	Excellent
		PA3_0053	Loughshinny Beach	Good
		PA3_0054	Rush, South Beach	Good
		PA3_0055	Portrane, the Brook Beach	Good
		PA3_0137	Claremont Beach	Sufficient
		PA3_0140	Rush, North Beach	Excellent
Galway City	Lake	PA3_0066	Loughrea Lake	Excellent
		PA3_0068	Bathing Place at Portumna	Excellent
	Coastal	PA3_0058	Trá na bhForbacha, Na Forbacha	Good
		PA3_0059	Trá Chaladh Fínis, Carna	Excellent
		PA3_0060	Céibh an Spidéil	Excellent
		PA3_0061	Cill Mhuirbhigh, Inis Mór	Excellent
		PA3_0062	Goirtín, Cloch na Rón	Excellent
		PA3_0064	Trá na mBan, An Spidéal	Good
		PA3_0065	Traught, Kinvara	Excellent
		PA3_0067	Trá an Dóilín, An Ceathrú Rua	Excellent
		PA3_0069	An Trá Mór, Coill Rua, Indreabhán	Excellent
		PA3_0138	Trá Inis Oirr (Main Beach)	Excellent
		PA3_0189	Aillebrack/Silverhill Beach	Excellent
Kerry	Coastal	PA3_0072	Banna Strand	Excellent
		PA3_0073	Rossbeigh, White Strand	Excellent
		PA3_0074	Inch	Excellent
		PA3_0075	Ballyheigue	Excellent
		PA3_0076	Ballybunnion South	Excellent
		PA3_0077	Fionntrá (Ventry)	Excellent

Local Authority	Water body type	PA Code	Name	Compliance (Water Quality 2025)
		PA3_0078	Trá na hUíne (Inny Strand, Waterville)	Excellent
		PA3_0079	Maharabeg	Excellent
		PA3_0080	Doire Fhíonáin (Derrynane)	Excellent
		PA3_0081	Fenit	Excellent
		PA3_0082	White Strand, Caherciveen	Excellent
		PA3_0083	Ballybunnion North	Excellent
		PA3_0084	Castlegregory	Excellent
		PA3_0085	Kells	Excellent
		PA3_0086	Baile an Sceilg (Ballinskelligs)	Excellent
		PA3_0183	Cúas Crom	Excellent
Leitrim	Lake	PA3_0087	Keeldra Lough	Excellent
Louth	Coastal	PA3_0088	Seapoint	Excellent
		PA3_0089	Clogherhead	Excellent
		PA3_0091	Port, Lurganboy	Excellent
		PA3_0090	Shelling Hill/Templetown	Excellent
Mayo	Coastal	PA3_0092	Dooega Beach, Achill Island	Excellent
		PA3_0093	Keem Beach, Achill Island	Excellent
		PA3_0094	Keel Beach, Achill Island	Excellent
		PA3_0095	Dugort Beach, Achill Island	Excellent
		PA3_0097	Carrowmore Beach, Louisburgh	Excellent
		PA3_0098	Bertra Beach, Murrisk	Excellent
		PA3_0099	Mulranny Beach	Excellent
		PA3_0100	Clare Island, Louisburgh	Excellent
		PA3_0101	Golden Strand, Achill Island	Excellent
		PA3_0102	Rinroe Beach, Carrowtigue	Excellent
		PA3_0103	Mullaghroe Beach, Belmullet	Excellent
		PA3_0104	Elly Bay, Belmullet	Excellent
		PA3_0105	Ross Beach, Killala	Excellent
		PA3_0106	Old Head Beach, Louisburgh	Excellent
		PA3_0134	Carrowniskey, Louisburgh	Excellent
		PA3_0242	Shore Road Beach	NA
Meath	Coastal	PA3_0107	Laytown/Bettystown	Excellent
Sligo	Coastal	PA3_0108	Mullaghmore Beach	Excellent
		PA3_0109	Enniscrone Beach	Excellent
		PA3_0110	Rosses Point Beach	Excellent
		PA3_0135	Streedagh Beach	Excellent
		PA3_0136	Dunmoran Beach	Excellent
Tipperary	Lake	PA3_0226	Dromineer Beach	Good
Waterford City	Coastal	PA3_0111	Bunmahon Beach	Excellent
		PA3_0112	Ardmore Beach	Good
		PA3_0113	Tramore Beach	Excellent
		PA3_0114	Dunmore Strand, Dunmore East	Good

Local Authority	Water body type	PA Code	Name	Compliance (Water Quality 2025)
		PA3_0115	Counsellors' Strand, Dunmore East	Good
		PA3_0116	Clonea Beach	Excellent
Westmeath	Lake	PA3_0117	The Cut, Lough Lene	Excellent
		PA3_0118	Lilliput, Lough Ennel	Good
		PA3_0119	Portnashangan, Lough Owel	Excellent
Wexford	Coastal	PA3_0120	Morriscastle	Excellent
		PA3_0121	Curracloe	Excellent
		PA3_0122	Duncannon	Excellent
		PA3_0123	Rosslare Strand	Excellent
		PA3_0124	Ballymoney, North Beach	Good
		PA3_0125	Courtown, North Beach	Excellent
		PA3_0139	Ballinesker	Excellent
		PA3_0144	Carne Beach	Excellent
		PA3_0209	Baginbun	NA
Wicklow	Coastal	PA3_0126	Bray South Promenade	Good
		PA3_0127	Silver Strand	Sufficient
		PA3_0128	Brittas Bay South	Excellent
		PA3_0129	Brittas Bay North	Excellent
		PA3_0130	Clogga	Excellent
		PA3_0131	Greystones South	Excellent
		PA3_0214	The Cove Greystones	Excellent

Appendix D Bedrock Geology Legend