

CHAPTER 13

WATER SERVICES

13.0 Introduction

'Water infrastructure' refers to the integrity and performance of above and below ground infrastructure assets relevant to water and wastewater service provision. This includes water abstraction infrastructure, potable water treatment plants, pipe networks, wastewater and sludge treatment plants and discharge of treated water in both the public and private sectors.

Inextricably linked to this infrastructural service is the management of 'water quality' which refers to the biological, chemical and physical status of fresh water in the environment (rather than effluent water quality or treated water for supply). Water quality is therefore addressed in this chapter as a key factor in the delivery of water services, but is also addressed in Chapters 17 and 18, in its role in the supporting of natural ecological systems and biodiversity.

With reference to the **National, Regional and County Objectives** set out in Chapter 2 of this plan, the delivery of high quality water services and the protection of fresh water quality will contribute to numerous goals across the three pillars of 'sustainable healthy communities', 'climate action' and 'economic opportunity' by:

- ensuring efficient and sustainable use and development of water resources and water services infrastructure;
- the conservation and enhancement of natural water resources and their associated ecosystems, biodiversity, protected habitats and species;
- ensuring environmentally sustainable development in terms of location, layout, design and energy and water usage;
- providing secure clean water supplies and safe methods of wastewater disposal to homes and businesses.

13.1 Context

13.1.1 Water Infrastructure

The provision of an adequate supply of water and wastewater treatment facilities is critical to support the health and well being of homes and businesses in the County, and to facilitate and sustain the growth of the County over the lifetime of the plan and beyond. The delivery, integration and implementation of water and wastewater projects and infrastructural improvements are in the main the responsibility of the State body 'Irish Water'; Wicklow County Council retains responsibility and / or oversight of the following areas:

Storm and surface water infrastructure: While the Office of Public Works has responsibility for flood risk management, Wicklow County Council is responsible for the management of storm and surface water infrastructure. With ongoing climate change, it is widely anticipated that changes in rainfall patterns and rises in sea levels resulting from climate change will increase the frequency and severity of flooding in the future placing increased demands on surface water infrastructure. In light of these global climate changes, alongside the anticipated growth of the County, future development and the subsequent reduction in the permeability of lands, the management of storm and surface water infiltration will be of increasing importance. Over the lifetime of this plan the effective management of this issue through Sustainable Urban Drainage Systems and Nature Based Solutions will be required.

Private wastewater treatment systems and private water supplies: Through the planning process the Council will assess applications for the provision of private waste water treatment systems and water supplies in order to ensure proposals put forward are in accordance with the standards set out in EU/national legislation, EPA guidance and would not be prejudicial to public health.

Wicklow County Council will continue to work closely with Irish Water to ensure that the County Development Plan and, in particular the Core Strategy and settlement strategy, continue to align with both the National Planning Framework and the Regional Spatial and Economic Strategy and that the provision of water/ wastewater services will be plan-led and not be a limiting factor in terms of targeted growth.

Planning and Development Act 2000 (as amended)

The Planning & Development Act requires that a development plan includes objectives for:

'The provision or facilitation of the provision of infrastructure including—

- *water supplies and waste water services (regard having been had to the water services strategic plan for the area made in accordance with the Water Services Act 2007),*
- *any ancillary facilities or services'*

In this regard, the current Water Services Strategic Plan (prepared by Irish Water) was approved by the Minister for Environment, Community and Local Government in October 2015.

EU Urban Wastewater Treatment Directive 91/271/EC

The Urban Waste Water Treatment Directive sets standards to be met in the collection and treatment of wastewater as well as the monitoring requirements for wastewater discharges from urban areas. The directive is about protecting the environment from the adverse effects of urban wastewater discharges. On 1 January 2014, the management of urban wastewater collection and treatment infrastructure transferred from local authorities to Irish Water. Compliance with the requirements of the directive is monitored by the EPA, and annual reports on compliance are available from the EPA.

The licensing or certification of wastewater discharges was introduced in 2007 under the Waste Water Discharge (Authorisation) Regulations 2007. The regulations identify the EPA as the regulator that authorises discharges from wastewater treatment plants.

Larger wastewater treatment plants are licensed, whereas smaller plants are subject to certification. The licenses set out conditions and remedial actions to be taken to ensure compliance with standards for various substances' discharges. Licenses also outline the actions needed for meeting obligations under a number of EU Environmental Directives. The licensing and certification processes are open and transparent and access to the application documentation is freely available from the EPA.

Water Services Guidelines 2018 (draft)

These Guidelines provide best practice guidance in relation to the interface between the planning and development functions provided by planning authorities and the delivery of public water services by Irish Water. The key aims of the Guidelines are to:

- Provide advice to planning authorities on the operational framework within which Irish Water must operate to deliver water services,
- Establish mechanisms for effective engagement between planning authorities and Irish Water across all the relevant functions of planning authorities, and
- Set out how the planning system, in setting out a spatial framework for growth and development, will relate to and inform the planning and delivery of water services by Irish Water at a national, regional and local level.

13.1.2 Water Quality

EU Water Framework Directive (2000/60/EC) & EU Groundwater Directive

The EU Water Framework Directive (WFD) is an important and innovative piece of EU legislation which was transposed into Irish Law in 2003. It aims to protect, improve and use sustainably our rivers, lakes, estuaries, coastal waters and groundwater through an integrated approach. It mandates public participation in the development and implementation of River Basin Management Plans.

The WFD aims for better management of our water resources and affects conservation, fisheries, flood defence, planning and development. It requires us to control all impacts – physical modification, diffuse and point source pollution, abstraction or otherwise – on our water resource.

The Groundwater Directive complements the WFD by establishing environmental objectives for groundwater chemical status and ensuring continuity with previous Groundwater Directives. Alongside surface waters, groundwater is an important natural resource, which supplies some 20-25% of drinking water in Ireland and is important in maintaining wetlands and river flows through dry periods. Groundwater and aquifers in Ireland are protected under EU and national legislation, and local authorities and the Environmental Protection Agency (EPA) are responsible for enforcing this legislation. A practical and effective means of protecting groundwater and preventing pollution is through the use of a Groundwater Protection Scheme.

A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. A Groundwater Protection Scheme aims to maintain the quantity and quality of groundwater and aquifers, and in some cases improve it, by applying a risk assessment-based approach to groundwater protection and sustainable development. In this way it helps public authorities to meet their responsibility to protect groundwater.

Groundwater protection within the County is carried out through the Wicklow Groundwater Protection Scheme which has been undertaken jointly between the GSI and Wicklow County Council. The purpose of the scheme is to preserve the quality of groundwater, particularly for drinking water purposes, for the benefit of present and future generations. The scheme identifies the vulnerability of areas within the County and Groundwater protection responses for existing and new potentially polluting activities.

These directives aim to achieve 'good' ecological status in all waters, protect high ecological status in our pristine waters and must ensure that status does not deteriorate in any waters. Local Authorities are charged with implementing the Water Framework and Groundwater Directive objectives.

River Basin Management Plan (RBMP) 2018 – 2021

The WFD requires that water quality management be centred on river basins, which are natural geographical areas that occur in the landscape. This is in contrast to other water management systems which use administrative management units which have arbitrary boundaries.

The Government has produced a roadmap to better water quality, known as the River Basin Management Plan (RBMP). For the purpose of assessment, reporting and management, water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined waterbodies. The River Basin Management Plan lists the current status of our waters and detail the measures required to bring those failing back to 'good' status and maintain the high status of our pristine sites. The plan aims to achieve 'good' ecological status and prevent deterioration in water quality in all waters¹.

¹ The Government is in the process of preparing the RBMP for Ireland 2022 – 2027.

Waterbodies not meeting the required standards are prioritised for assessment of pressures and the assigning of measures to help improve quality. The most recent updates on the status of water bodies within County Wicklow show a 9% increase in waterbodies at 'Good' or 'High' status, while on average nationally there has been a 5% decline in status. In addition to Priority Areas for Action, 'Blue-Dot' catchments have been designated in the RBMP for the protection and improvement of *pristine* water quality. Wicklow has number of blue-dot catchments, but nationally there is a steady decline in the number each year. These pristine waterbodies are very sensitive to pollution or any changes in the catchment.

Continuous efforts to maintain and restore all water bodies within the County to at least 'good' ecological status will be required throughout the lifetime of this Development Plan.

Twenty-seven Management Plans for the Freshwater Pearl Mussel have been published, the objective of which is to restore the freshwater pearl mussel populations in 27 rivers, or stretches of rivers that are within the boundaries of Special Areas of Conservation. The Derreen Sub-Basin Management Plan is partially located in County Wicklow, the Derreen being a tributary of the River Slaney.

Nitrates Directive (91/676/EEC)

The Nitrates Directive (91/676/EEC) has been in place since 1991 and it aims to protect water quality from pollution by agricultural sources and to promote the use of good farming practice. All EU Member States are required to prepare National Nitrates Action Programmes (NAP) that outline the rules for the management and application of livestock manures and other fertilisers. Ireland's NAP is designed to prevent pollution of surface waters and ground water from agricultural sources and to protect and improve water quality. Ireland's 4th NAP came into operation in 2017 and will be reviewed in 2021.

S.I. No. 605 of 2017 (EU Regulations on Good Agricultural Practice for Protection of Waters 2017) gives effect to Ireland's Nitrates Action Programme (NAP) for the protection of waters against pollution, caused by agricultural sources. The set of measures in these regulations provides a basic level of protection against possible adverse impacts to waters arising from the agricultural expansion targets.

Local Authority Waters Programme

The Local Authority Waters Programme Office (LAWPRO) was previously called the Local Authority Waters and Communities Office. LAWPRO has three core aims:

- To coordinate efforts by Local Authorities, public bodies and other stakeholders to achieve the environmental objectives of the EU Water Framework Directive
- To support local communities who wish to get involved in the care of their local waters and engage with river basin planning
- To build a better understanding of the issues impacting on water quality at a local level and recommend improvement measures

LAWPRO programmes are delivered by a network of 13 Community Water Officers located in centres throughout the country. These officers engage with Local Authority and Regional Authority Teams, as well as the public through Public Participation Networks, Local Community Development Committees, LEADER Groups, Partnerships, sectoral interest groups, Rural Development companies and the Irish Local Development Network.

Community engagement will include education and awareness campaigns to deliver the right message to the right groups in the right way. It is intended that results and lessons learnt from projects and initiatives with a connection to water will be shared widely on social media platforms, thereby facilitating knowledge and information transfer between communities.

Planning and Development Act 2000 (as amended)

The Planning & Development Act requires that a development plan includes objectives for:

"The provision or facilitation of the provision of infrastructure including - water supplies and waste water services (regard having been had to the water services strategic plan for the area made in accordance with the Water Services Act 2007)"

*"The promotion of compliance with environmental standards and objectives established -
(i) for bodies of surface water, by the European Communities (Surface Waters) Regulations 2009;
(ii) for groundwater, by the European Communities (Groundwater) Regulations 2010;
which standards and objectives are included in river basin management plans (within the meaning of Regulation 13 of the European Communities (Water Policy) Regulations 2003)."*

13.1.3 Climate Change Sectoral Adaptation Plan for the Water Quality & Water Services Infrastructure Sectors

The Minister for Housing, Planning and Local Government has prepared a Sectoral Adaptation Plan (SAP) under the National Adaptation Framework in respect of two sectors: 'water quality' and 'water services infrastructure', together called the 'water sectors'. The development of this Sectoral Plan forms one part of a much larger effort by Ireland to prepare for climate change.

This Sectoral Adaptation Plan for the water quality and water services infrastructure sectors presents an assessment of key future climate risks to the sectors and describes a range of key potential adaptive measures. The outcomes of this assessment should be considered by organisations and stakeholders within the sectors in future adaptation planning.

Summary:

Key points from this sectoral plan	<ul style="list-style-type: none"> ▪ Protecting and improving water quality and improving water services infrastructure are major challenges in Ireland. ▪ Climate change-induced threats will increase the scale of these challenges. ▪ Risks to water quality and water infrastructure arise from changing rainfall patterns and different annual temperature profiles. The frequency and intensity of storms and sea level rise are also considered.
The challenges: Water Quality	<ul style="list-style-type: none"> ▪ High rainfall and flooding leading to mobilisation of pollutants. ▪ Reduced dilution of contaminants in water bodies at low flow. ▪ Drying of peatland resulting in the reduction of natural filtration of pollutants. ▪ Increased spread and viability of pathogens, such as from livestock waste and slurry. ▪ Changes in the distribution and viability of native, non-native and invasive flora and fauna.
The challenges: Water Services Infrastructure	<ul style="list-style-type: none"> ▪ Increased surface and sewer flooding leading to pollution, water and wastewater service interruptions. ▪ Reduced availability of water resources. ▪ Hot weather increasing the demand for water. ▪ Increased drawdown from reservoirs in the autumn/winter for flood capacity, leading to resource issues. ▪ Business continuity impacts or interruptions for water services providers.
Primary Adaptive Measures	<ul style="list-style-type: none"> ▪ Fully adopt the 'integrated catchment management' approach. ▪ Improve treatment capacity and network functions for water services infrastructure.

- Water resource planning and conservation – on both supply and demand sides.
- Include climate measures in monitoring programmes and research.
- Many of these proposed adaptation actions are already underway through existing and scheduled water sector plans and programmes.

As set out in this sectoral plan, apart from climate change, there are very significant and multiple additional pressures facing the water sector in Ireland. Ireland is currently implementing a programme of investment to improve water services to ensure that infrastructure meets basic quality and performance standards. In addition, pressures from population growth and demographic and societal change (e.g. urbanisation) are significant. Climate change impacts may compound these existing pressures and pose challenges for adaptation planning and finance. There are likely to be interactions and feedbacks between climate change and these additional pressures, including both direct and indirect impacts and positive and negative relationships. The National Adaptation Framework recognises the importance of the social and economic policy context when considering climate change impacts and adaptation actions.

13.2 Water Services Objectives

Water Quality

- CPO13.1** To ensure and support the implementation of the *EU Groundwater Directive* and the *EU Water Framework Directive* and associated River Basin and Sub-Basin Management Plans and Blue Dot Catchment Programme, to ensure the protection, improvement and sustainable use of all waters in the County, including rivers, lakes, ground water, coastal and estuarine waters, and to restrict development likely to lead to a deterioration in water quality. The Council will also have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive.
- CPO13.2** To prevent development that would pollute water bodies and in particular, to regulate the installation of effluent storage and disposal systems in the vicinity of natural water bodies or development that would exacerbate existing underlying water contamination.
- CPO13.3** To minimise alterations or interference with river / stream beds, banks and channels, except for reasons of overriding public health and safety (e.g. to reduce risk of flooding); a buffer of generally 25m along watercourses should be provided (or other width, as determined by the Planning Authority having particular regard to 'Planning for Watercourses in the Urban Environment' by Inland Fisheries Ireland for urban location) free from inappropriate development, with undeveloped riparian vegetation strips, wetlands and floodplains generally being retained in as natural a state as possible.
- CPO13.4** To ensure that any development or activity with the potential to impact on ground water has regard to the GSI Groundwater Protection Scheme (as shown on Map XX).
- CPO 13.5** To ensure compliance with and to implement the provisions of the Nitrates Directive in so far as it falls within the remit of the Council to do so.
- CPO 13.6** To encourage and promote the use of catchment-sensitive farming practices, in order to meet Water Framework Directive targets and comply with the River Basin Management Plan.

- CPO13.7** To support and facilitate projects and programmes that aim to improve scientific knowledge and public awareness of the importance of natural water quality, and in particular to support the LAWPRO programme in County Wicklow and adjoining counties as appropriate.

Water Supply Objectives

- CPO 13.8** In order to fulfil the objectives of the Core Strategy and settlement strategy, Wicklow County Council will work alongside and facilitate the delivery of Irish Water's **Water Services Investment Programme**, to ensure the provision of sufficient storage, supply and pressure of potable water to serve all lands zoned for development and in particular, to endeavour to secure the delivery of regional and strategic water supply schemes and any other smaller, localised water improvement schemes required during the lifetime of the plan, as well as programmes to consolidate, and improve supply and resilience under the National Water Resource Plan.

In particular, to support and facilitate the delivery of new / improved water treatment supplies and storage infrastructure in the following settlements/areas:

- Newtownmountkennedy
- Rathdrum
- Dunlavin
- The areas and settlements covered by the Mid Wicklow Water Supply Scheme

- CPO 13.9** To protect existing and potential water resources of the County, in accordance with the EU Water Framework Directive, the River Basin Management Plans, the Groundwater Protection Scheme and source protection plans for public water supplies.

- CPO 13.10** To require new developments to connect to public water supplies where services are adequate or where they will be provided in the near future, or where extension of an adjacent water supply system is technically and environmentally feasible.

- CPO 13.11** Where connection to an existing public water supply is not possible, or the existing supply system does not have sufficient capacity, the provision of a private water supply will be only permitted where it can be demonstrated that the proposed water supply meets the standards set out in EU and national legislation and guidance, would not be prejudicial to public health, would not impact on the source or yield of an existing supply, particularly a public supply or would not adversely affect the ability of water bodies to meet the objectives of the Water Framework Directive. Private water supplies for multi-house developments will not be permitted.

- CPO 13.12** To support Irish Water's ongoing investment in the Vartry Water Supply Scheme.

- CPO 13.13** To support the provision of a water supply to all large and small villages.

Water Demand Objectives

- CPO 13.14** To require all new developments to integrate water demand reduction designs and technologies in all aspects of the development including but not limited to
- Installation of water efficient equipment;
 - Provision of dual flush toilets, cistern bags or other similar technologies;
 - Construction of grey water systems to allow for the re-use of wastewater from sinks, shower drains or washing machines;

- Provision of rainwater harvesting equipment;
- The use of low maintenance plants in the design of landscaping;
- In manufacturing, use of process or cooling loops, counter current rinsing and batch processing, or increasing the recycle rate of cooling towers.

Waste Water Objectives

CPO 13.15 In order to fulfil the objectives of the Core Strategy, Wicklow County Council will work alongside and facilitate the delivery of Irish Water's **Water Services Investment Programme**, to ensure that all lands zoned or identified for development are serviced by an adequate wastewater collection and treatment system and in particular, to endeavour to secure the delivery of regional and strategic wastewater schemes.

In particular, to support and facilitate the delivery of new / improved wastewater treatment plants in the following settlements:

- Arklow
- Blessington
- Aughrim
- Tinahely
- Avoca
- Laragh – Glendalough
- Lakes area around Blessington
- Large and Small Villages

CPO 13.16 Permission will be considered for private wastewater treatment plants for single rural houses where:

- the specific ground conditions have been shown to be suitable for the construction of a treatment plant and any associated percolation area;
- the system will not give rise to unacceptable adverse impacts on ground waters / aquifers and the type of treatment proposed has been drawn up in accordance with the appropriate groundwater protection response set out in the Wicklow Groundwater Protection Scheme (2003);
- the proposed method of treatment and disposal complies with Wicklow County Council's Policy for Wastewater Treatment & Disposal Systems for Single Houses (PE ≤ 10) and the Environmental Protection Agency "Waste Water Treatment Manuals"; and
- in all cases the protection of ground and surface water quality shall remain the overriding priority and proposals must definitively demonstrate that the proposed development will not have an adverse impact on water quality standards and requirements set out in EU and national legislation and guidance documents.

CPO 13.17 Private wastewater treatment plants for multi-house developments will not be permitted.

CPO 13.18 Private wastewater treatment plants for commercial / employment generating development will only be considered where:

- Irish Water has confirmed the site is due to be connected to a future public system in the area² or Irish Water has confirmed there are no plans for a public system in the area;
- It can clearly demonstrated that the proposed system can meet all EPA / Local Authority environmental criteria; and

² The developers of the private temporary treatment plants will be required to submit details of how the proposed development will be decommissioned where a connection to the future public sewer is possible and the subject lands returned to their previous state

- An annually renewed contract for the management and maintenance of the system is contracted with a reputable company / person, details of which shall be provided to the Local Authority.

CPO 13.19 Where any application for a private treatment plant would require a discharge licence under the Water Pollution Acts, a simultaneous application for same shall be required to be made when submitting the planning application.

Storm & Surface Water Infrastructure Objectives

CPO 13.20 Ensure the separation of foul and surface water discharges in new developments through the provision of separate networks.

CPO 13.21 Ensure the implementation of Sustainable Urban Drainage Systems (SUDS) in accordance with the Wicklow County Council SuDS Policy to ensure surface water runoff is managed for maximum benefit. In particular to require proposed developments to meet the design criteria of each of the four pillars of SuDS design; Water Quality, Water Quantity, Amenity and Biodiversity.

CPO 13.22 To promote the use of green infrastructure, such as swales and wetlands, where feasible as landscape features in new development to provide storm / surface runoff storage and reduce pollutants, as well as habitat, recreation and aesthetic functions.