

Spring 2021

Regional Water Resources Plan: Eastern and Midlands Strategic Environmental Assessment Scoping Report



Data disclaimer: This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid-19 pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy.

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1

Introduction and Background

This Section includes:

- An introduction to the need for the National Water Resources Plan (NWRP), and the plan for delivery of the NWRP
- An introduction to the Eastern and Midlands (EM) region that this Regional Plan covers
- Background to the SEA process and how it is integrated with delivery of the Regional Plan and the NWRP

Scoping question: Do you have any suggestions that you would like Irish Water to consider in the preparation of the Eastern and Midlands Regional Plan?

1 Introduction and Background

1.1 Introduction

On the 1st of January 2014, through the Water Services Act (No. 1) 2013, Irish Water assumed statutory responsibility for the provision of public water services and management of water and wastewater investment. Irish Water's role is to provide public water and wastewater services throughout the country. They are the custodian with the responsibility to manage the precious water resources and, with Local Authority partners, secure it for future generations. It is their responsibility to ensure that all their customers receive a safe and secure supply of drinking water and have their wastewater collected, appropriately treated and returned to the environment. Irish Water support Ireland's social and economic growth in a sustainable manner through appropriate investment in water services and protect the environment in all their activities.

Effective water services, including the delivery of a sustainable and reliable clean water supply and safe disposal of wastewater, are essential for a modern country. Being able to understand and estimate how much water is required, where it is required, and the variability of requirements over the course of the year or over time, is essential to plan appropriately for the future of the public water supply.

1.2 Background to the National Water Resources Plan (NWRP)

1.2.1 Water Resource Planning

A Water Resources Plan is a strategic plan used to identify deficiencies and need across a water supply and to develop plan level capital and operational solutions to address these issues.

Irish Water's National Water Resources Plan (NWRP) will be the first resources plan for the public water supply in the Republic of Ireland. It will allow Irish Water to integrate Government Policy, Legislation and external factors that have the potential to impact their water supplies into the planning and operation of their existing and future supply asset base.

The objective of the NWRP is to manage customer and communities' needs while meeting their requirements over the short, medium and long term by ensuring safe, secure, sustainable and reliable water supplies. The NWRP will:

- Enable Irish Water to address needs across their water supplies in the most effective way over time through the regulated investment cycles proposed as part of the NWRP;

- Ensure that there is a transparent framework to develop the most appropriate projects/programmes to meet statutory obligations in relation to water supply; and
- Provide a framework to track outcomes, allowing interventions to be prioritised to bring the water supply up to the required standards in the shortest possible timeframe.

Water Resources Plans are reviewed on a cyclical basis to take account of new information, data, policies and laws and are usually updated every 5 years. Irish Water know things will change over the next 25 years so within the NWRP they have considered a range of possible futures, some more challenging than others. This approach is called adaptive planning, and means Irish Water are ready and flexible whatever the future holds.

A glossary of technical terms used is included at the end of the document.

1.2.2 Delivery of the NWRP

Due to the scale of the NWRP, which covers an entire country, it will be delivered in two stages:

- **Phase 1: Framework Plan:** a description of the options assessment methodology Irish Water proposes to use for water resource planning, and assessment of need across Irish Water asset base in terms of quality, quantity, reliability and sustainability; and
- **Phase 2: Regional Water Resource Plans (RWRPs)** for the four regional group areas shown in Figure 1.1 below. The Regional Plans apply the options assessment methodology presented in the Framework Plan to the national water supply and develop a programme of preferred short, medium- and long-term solutions and/or groups of solutions to address identified needs for each area of the supply network.

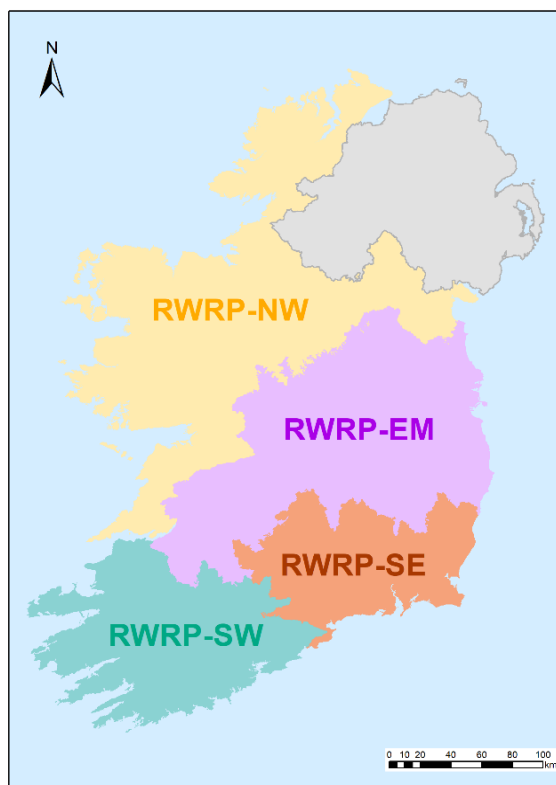


Figure 1.1: Regional Group Areas for roll-out of Phase 2 of the NWRP

The RWRPs are referred to as follows:

- Regional Water Resources Plan: North West (Group Area 1);
- Regional Water Resources Plan: South West (Group Area 2);
- Regional Water Resources Plan: South East (Group Area 3); and
- Regional Water Resources Plan: Eastern and Midlands (Group Area 4).

Phase 1 of the NWRP is now complete. The Framework Plan and accompanying SEA Environmental Report and Natura Impact Statement (NIS) were finalised in May 2021 following a period of public consultation and update. These documents are available to view on our website at the following location: www.water.ie/hwrp

1.2.3 Regional Plan: Eastern and Midlands (RWRP-EM)

This document is the SEA Scoping Report for the Regional Water Resources Plan: Eastern and Midlands (RWRP-EM). The EM region is further subdivided into nine Study Areas based on Water Framework Directive (WFD) catchment and Water Resource Zone (WRZ) boundaries within the region, as shown in Figure 1.2.

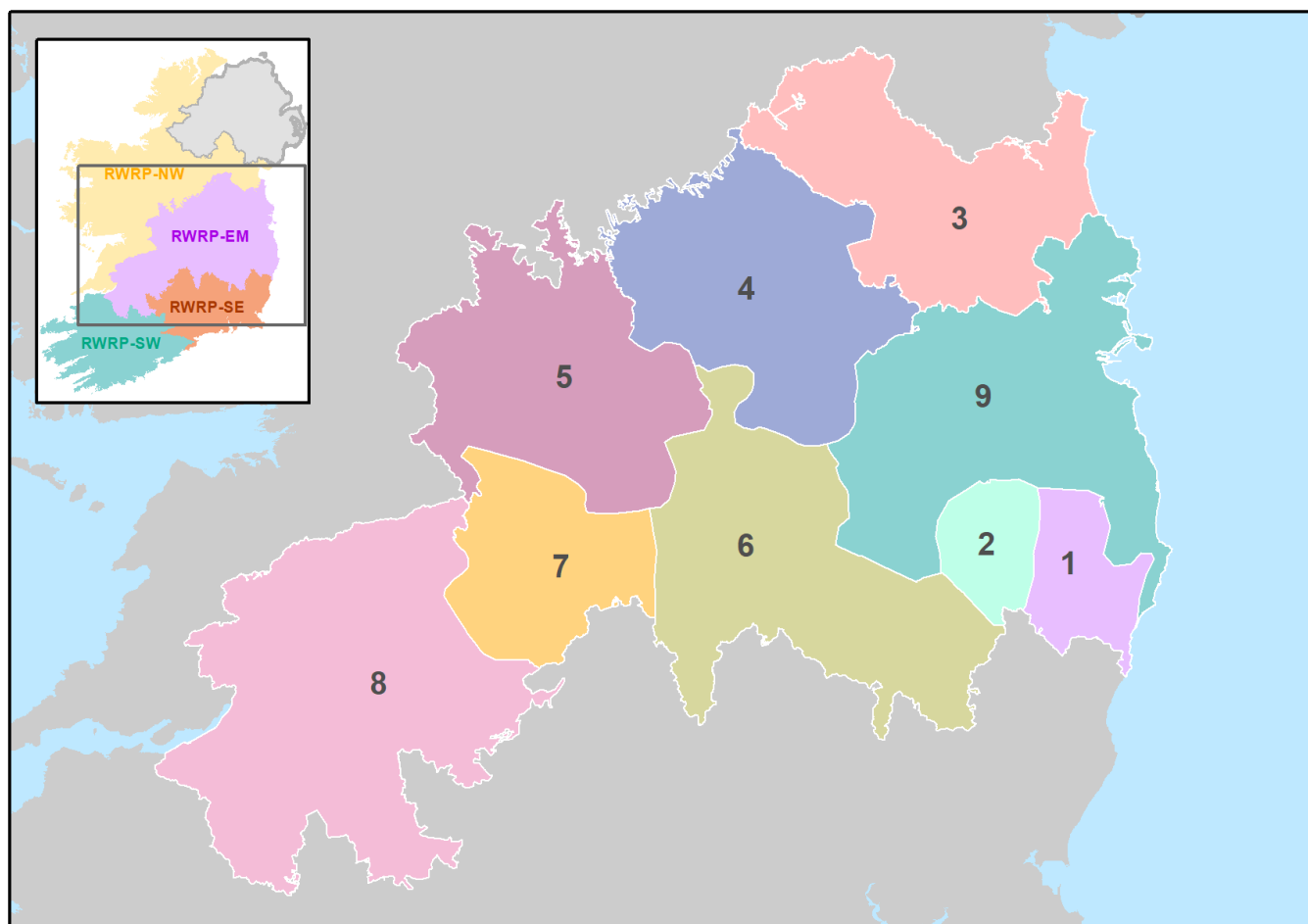


Figure 1.1: RWRP-EM Study Areas

An overview of the nine EM Study Areas is provided in Table 1.1.

Table 1.1 Overview of RWRP-EM Study Areas

Study Area	Description
SA1 Mid Wicklow	SA1 total area is approximately 682 km ² and lies within the counties Wicklow and Wexford. The principal settlement (with a population of over 10,000) within SA1 is Arklow (CSO, 2016)
SA2 West Wicklow	SA2 total area is approximately 545 km ² and lies within the counties of Carlow, Kildare and Wicklow. There are no principal settlements (with a population of over 10,000) within SA2, the largest settlement is Baltinglass, with a population of 2,137 (CSO, 2016)
SA3 Meath South Louth	SA3 total area is approximately 2,404 km ² and lies within the counties of Cavan, Louth, Fingal, Westmeath and Meath. The principal settlements (with a population of over 10,000) within SA3 are Navan, Drogheda, Laytown-Bettystown-Mornington-Donacorney and Ashbourne (CSO, 2016)
SA4 Mullingar	SA4 total area is approximately 2,637 km ² and lies within the counties of Westmeath, Meath, Kildare, Longford, Cavan and Offaly. The principal settlement (with a population of over 10,000) within SA4 is Mullingar (CSO, 2016)
SA5 Offaly Roscommon	SA5 total area is approximately 2,597 km ² and lies within the counties of Galway, Roscommon, Longford, Westmeath, North Tipperary, Offaly and Laois. The principal settlement (with a population of over 10,000) within SA5 is Athlone (CSO, 2016)
SA6 Laois	SA6 total area is approximately 3,027 km ² and lies within the counties of Carlow, Kildare, Kilkenny, Laois, North Tipperary, Offaly, South Tipperary, Westmeath, Wexford and Wicklow. The principal settlements (with a population of over 10,000) within SA6 are Carlow, Portlaoise and Tullamore (CSO, 2016)
SA7 North Tipperary	SA7 total area is approximately 1,455 km ² and lies within the counties of Clare, Galway, Laois, North Tipperary, and Offaly. There are no principal settlements (with a population of over 10,000) within SA7. However, the main settlements (with a population of over 5,000) are Nenagh and Roscrea (CSO, 2016)
SA8 Limerick	SA8 total area is approximately 4,221 km ² and lies within the counties of Clare, Cork, Galway, Limerick, Limerick City, North Tipperary and South Tipperary. The principal settlements (with a population of over 10,000) within SA8 are Limerick City and Suburbs, and Ennis (CSO, 2016)
SA9 Greater Dublin Area (GDA)	SA9 total area is approximately 3,113 km ² and lies within the counties of Dublin City, Dun Laoghaire-Rathdown, Fingal, Kildare, Meath, South Dublin and Wicklow. The principal settlements (with a population of over 10,000) within SA9 are Balbriggan, Bray, Celbridge, Droichead Nua (Newbridge), Dublin City and suburbs, Greystones-Delgany, Leixlip, Malahide, Maynooth, Naas, Skerries, Swords and Wicklow (CSO, 2016)

1.2.4 Scope of the Regional Plan

The aim of the RWRP–EM is to allow Irish Water to maintain a balance between supply and demand. A supply demand balance forecast will enable the identification of any current or predicted water supply deficits from each WRZ. Using this information, a list of potential option types to address that deficit has

been developed, as detailed in Table 1.2 below. The RWRP-EM methodology will assess the WRZ and the sources within them to identify options that could provide a sustainable, reliable source of water into the future.

Table 1.2 Option types

RWRP category	RWRP sub-category	Summary
Lose Less		
Leakage Reduction		<p>Reducing leakage from the network is a priority for Irish Water. This can involve a range of measures for actively detecting and repairing leaks such as the installation of meters to better identify customer leakage activity and advanced monitoring tools and techniques to better identify leaks.</p> <p>Leakage reduction will focus on targeted replacement of ageing pipes, pressure management to minimise fluctuations and excessive pressures providing more constant pressures to Irish Water customers whilst reducing bursts and the application of different leak repair approaches to minimise cost and disruption.</p>
Use Less		
Water Efficiency	Education & Awareness	Environmental awareness/education campaigns and partnerships and distribution of educational materials to raise awareness of water shortages and encourage water conservation and efficiency.
	Water Efficiency Measures	<p>Use of water efficient products and processes in new and refurbished housing developments and working with building standards to ensure that water efficiency measures are included in standards regulations as mandatory. Encouraging take up of water efficiency measures by domestic and non-domestic customers such as more efficient appliances, repair of leaking toilets, use of water audits.</p> <p>Actively pursue business customers and industry for partnerships that involve water efficiency goals.</p> <p>Investigate how to use water within Irish Water's existing assets more efficiently through improved treatment processes and recycling of effluent water for appropriate uses.</p>
	Recycling and Reuse	The recycling of treated wastewater or grey water provides a critical supplementary water source for non-potable activities therefore alleviating stress on primary water sources. Grey water refers to the water

RWRP category	RWRP sub-category	Summary
		used in baths, sinks, washing machines, and other kitchen appliances. In periods of drought, when potable water is in short supply, grey water can be a potential alternative water source for activities such as agricultural and landscape irrigation, industrial process, and toilet flushing.
	Metering	Domestic water metering can build a better understanding of water use and network pressures to improve water efficiency and therefore water security and identify leaks. Water meters with advanced analytics to undertake flow balances across the network can allow Irish Water to gain a better understanding of the whole network from the abstraction point to the customers
Supply Smarter – resource supply options ¹		
Surface Water	Surface Water Abstraction	Increasing the abstraction at an existing river or lake source or developing a new river or lake source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.
Groundwater	Groundwater Abstraction	Increasing the abstraction at an existing groundwater source or developing a new groundwater source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.
	Aquifer Storage Recovery	Storage of treated or raw water in suitable aquifers. During times of plentiful water supply, excess water withdrawn from a river, lake or another groundwater source is injected and stored within an aquifer. This supplementary stored water can be extracted from the aquifer during periods of dry weather and/or increased demand when the primary supply sources are running low. This requires aquifers with suitable characteristics to be available as the risks of losses can be high.

¹ It is important to note that these option types are not necessarily alternatives to each other; in the majority of the WRZs a combination of options will be selected as the preferred / recommended approach. For example, surface water and groundwater abstractions can be used in combination, this is called conjunctive use and involves the storing of surface water in groundwater basin in wet years and withdrawing it from the basin in dry years. Additionally, most new or increased abstractions will involve upgrades to or construction of new WTPs and new or upgraded transfers.

RWRP category	RWRP sub-category	Summary
Reservoirs	Storage Reservoirs	Provision of storage reservoirs which can be filled with untreated water abstracted during high flow conditions from surface waters to be drawn on during low flow periods or to provide additional resilience during droughts as a back-up supply source.
Catchment Management	Catchment management for ground or surface water sources	Activities such as agriculture, forestry, industry and waste management all have an impact on the retention of water in the catchment and the quality of the water within rivers and loughs. Pollutants in the water can lead to ecological deterioration, increased flood risk and can also create issues for water treatment. There may be scope for changes to land management through working in partnership with landowners, farmers and regulators to develop agreements and share information and resources to provide long term improvements with wide benefits including water suitable for supply from surface of groundwaters.
Effluent Reuse	Effluent Reuse	Recycling of wastewater effluent from treatment plants can produce a new supply source from wastewater which is otherwise discharged to rivers or the sea. This involves treating wastewater to a sufficiently high standard to meet supply standards relevant for the intended use for example for agricultural/horticulture/industry/water supply or for release to rivers to maintain flows.
Desalination	Desalination: Coastal or Brackish	This involves the process of removing salt and other minerals from seawater or brackish water ² river estuaries to make it suitable for human consumption and/or industrial use. The level of treatment required is related to the salt concentration of the water.
Water Transfers	Transfers	Water transfer is the physical movement of water from one area to another usually via pipelines, although other means such as canals or aqueducts can be used. These generally refer to the transfer of treated water and can vary considerably in scale in terms of size and length from local transfers from one WRZ to another, to regional transfers and inter-utility transfers (from Northern Ireland Water) ³ .

² Brackish water is water that has more salt than freshwater, but not as much as seawater that is generally found in estuaries.

³ No inter-utility transfers have been identified for the EM region

RWRP category	RWRP sub-category	Summary
	Tankering	Delivery of treated water to customers via road tanker to alleviate temporary short-term water shortages in certain localised situations.
Network Improvements	Network Improvements (general)	Network improvement involves works such as upgrade, replacement or operational improvements. They are undertaken to facilitate better water distribution and avoid network limitations. Therefore, strategic network reinforcement improving connections between different sources and customer supply can significantly improve security and resilience.
	Service Reservoir Expansion	Service reservoirs store treated water. They are used to balance out the steady supply of treated water they receive from WTPs and the fluctuating variations in customer demand during a 24-hour period. They can also be used to store a backup supply in low flow events but for a limited period of time.
Water Treatment Plants	WTP Expansion/Rationalisation	Expansion of existing WTPs to facilitate the treatment of a higher volume of water. This option would be considered in-combination with an increase of a surface water or ground water abstraction or the provision of a new surface water or ground water source. Expansion of existing WTPs may be carried out as part of a rationalisation process which involves the merging of WTPs. Rationalisation is carried out to reduce water supply costs, take a malfunctioning WTP out of service or to cease abstraction from an unsustainable source.
	WTP Process Losses	For every litre of untreated water extracted from a source and fed through a water treatment plant to the supply distribution network, a small fraction of the water will be lost from the system as a result of the treatment losses. Generally, WTPs are designed to recover, treat and recycle as much of the waste stream as economically feasible. However, there can be opportunities to improve efficiency through the upgrading and installation of more complex treatment processes to reduce these process losses and therefore increase the WAFU.

1.3 Strategic Environmental Assessment

1.3.1 Legislative Requirement

Council Directive 2001/42/EC of the European Parliament and of the Council of 27th June 2001 on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) established the statutory requirement for SEA as part of the development of certain plans and programmes. The Directive is applicable to the Framework Plan and the Regional Plans of the NWRP.

The transposing Irish Regulations are the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011).

In accordance with the overall objective of the SEA Directive as set out in Article 1, a SEA is required to:

“Provide for a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development...”

According to Article 2 of the Directive, "plans and programmes" means plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- Which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government; and
- Which are required by legislative, regulatory or administrative provisions.

Under Article 3(2), an 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, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC⁴ .”

1.3.2 SEA Process

The purpose of SEA is to enable plan-making authorities such as Irish Water to incorporate environmental considerations into decision-making at an early stage and in an integrated way throughout the plan-making process. The SEA process is undertaken in four stages. The progress against each stage of the SEA process for the RWRP-EM Regional Plan is summarised in Table 1.3. The SEA process for Phase 1 of the NWRP, the Framework Plan, has already been completed.

Table 1.3 Stages of SEA

Stage	Purpose and requirements	Progress to date / current status
Stage 1: Screening	Prior to starting the SEA process, a plan or programme undergoes “screening” to determine whether it requires SEA.	SEA Screening Statement – Irish Water (as the responsible authority) determined that SEA was required for the NWRP when screening was carried out in August 2017. A SEA screening statement for the

⁴ Replaced by 2011/92/EU as amended by 2014/52/EU

Stage	Purpose and requirements	Progress to date / current status
		Regional Plan EM is provided in Appendix C.
Stage 2: Scoping	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 – The SEA Scoping Report sets the geographical and temporal scope of the draft Regional Plan and SEA, the baseline environment and a proposed framework of SEA objectives to inform the Stage 3 assessment. Current Stage in the SEA Process
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 draft Regional Plan is carried out, including consideration of alternatives and determination of measures to mitigate and monitor potential residual effects.	Environmental Report (SEA of the draft Regional Plan)
Stage 4: Consultation, Revision and Post-Adoption	Consultation with statutory consultees and the public. This may require changes to the draft Regional Plan and SEA Environmental Report in light of responses. Publication of the final Regional Plan and SEA Statement. Implementation of the monitoring programme.	Stage 4: Consultation, Revision and Post-Adoption

1.3.3 Appropriate Assessment

In addition to compliance with the SEA Directive, the preparation and implementation of the NWRP must meet the provisions of the Habitats Directive (92/43/EEC). The Habitats Directive has been transposed into Irish law by the Planning and Development Act, 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). The Habitats Directive requires that if a plan, policy or programme is likely to have a significant effect on one or more European sites (that is, a Special Area of Conservation (SAC) or Special Protection Area (SPA), also referred to as “Natura 2000” Network), either alone or in combination with other schemes, plans or projects, then it must be subject to Appropriate Assessment (AA).

The NWRP therefore falls under the governing legislation of the European Communities (Birds and Natural Habitats) Regulations 2011 (Habitats Regulations 2011); and as a “competent authority”, Irish Water must ensure that their NWRP meets these requirements. The Stage 1 (screening) assessment has concluded that it cannot be excluded, on the basis of objective scientific information following screening that the draft RWRP-EM, individually or in combination with other plans or projects, will have a

significant effect on one or more European sites. Accordingly, a full Stage 2 Appropriate Assessment will be required in accordance with the Habitats Regulations 2011.

1.3.4 Integration between SEA (and AA) and the draft Regional Plan and the Framework Plan

The options development process which Irish Water propose to use to develop the Preferred Approach for all Regional Plans is described within the Framework Plan and was subject to a separate SEA process and finalised in May 2021. The options assessment methodology is outlined briefly below, with further detail available within the Framework Plan and the SEA Statement which accompanies the Framework Plan which can both be found at: www.water.ie/nwrp

There are eight key stages to the options assessment methodology which is applied:

- 1) Identifying need - based on Supply Demand Balance and/or Drinking Water Safety Plan Barrier Assessment.
- 2) Scoping of the Study Area (WRZs) – understanding the Study Area and the existing conditions of assets, supply and demand issues as well as environmental constraints and opportunities.
- 3) Identifying potential options for consideration relevant to the Study Area.
- 4) Coarse screening – assess the unconstrained options and eliminate any that will not be viable
- 5) Further option definition, information collection and preliminary costing.
- 6) Fine screening – options assessment and scoring against the key criteria with further removal of options identified as unviable and development of feasible options for costing (including environmental and social costs and benefits) and scoring assessment update.
- 7) Approach appraisal – comparison and assessment of combinations of options identified to meet the predicted supply demand deficit at WRZ, Study Area and Regional Group area level using Multi-Criteria Analysis (MCA) to determine the preferred approach. Approaches tested will include:
 - Least Cost;
 - Best Appropriate Assessment (Best AA);
 - Quickest Delivery;
 - Best Environmental;
 - Most Resilient; and
 - Lowest Carbon.
- 8) Monitoring and Feedback into Plan – a feedback mechanism to ensure that the Framework Plan continuously adapts to changes such as evolving scientific data, understanding, and policy change in relation to the natural environment.

Figure 1.3 illustrates how SEA influences each stage of the options development process and options assessment methodology outlined above, and Figure 1.4 shows how the SEA and AA reporting will align with each other and with development of the draft RWRP-EM.

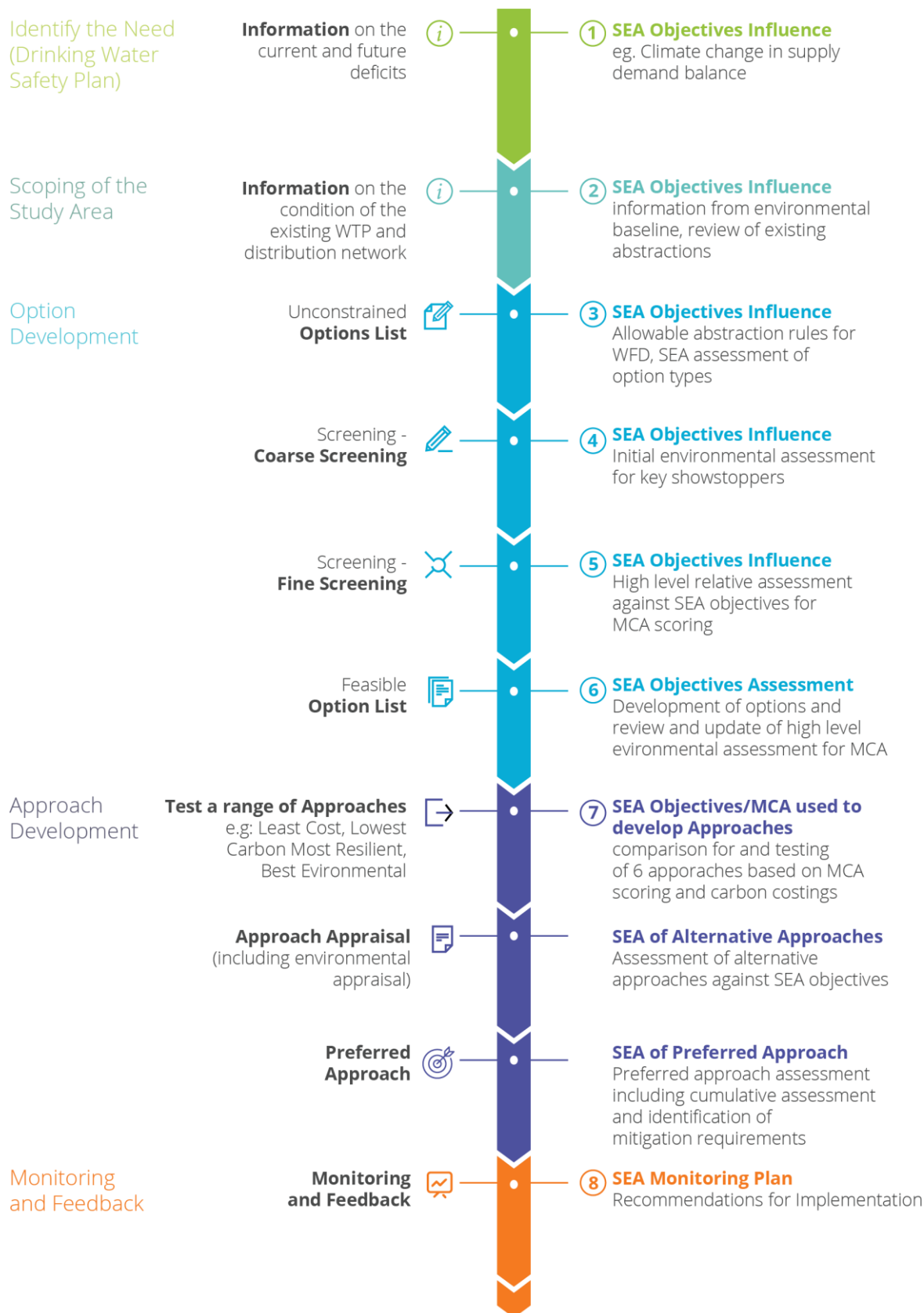


Figure 1.3 SEA influence on draft RWRP-EM development

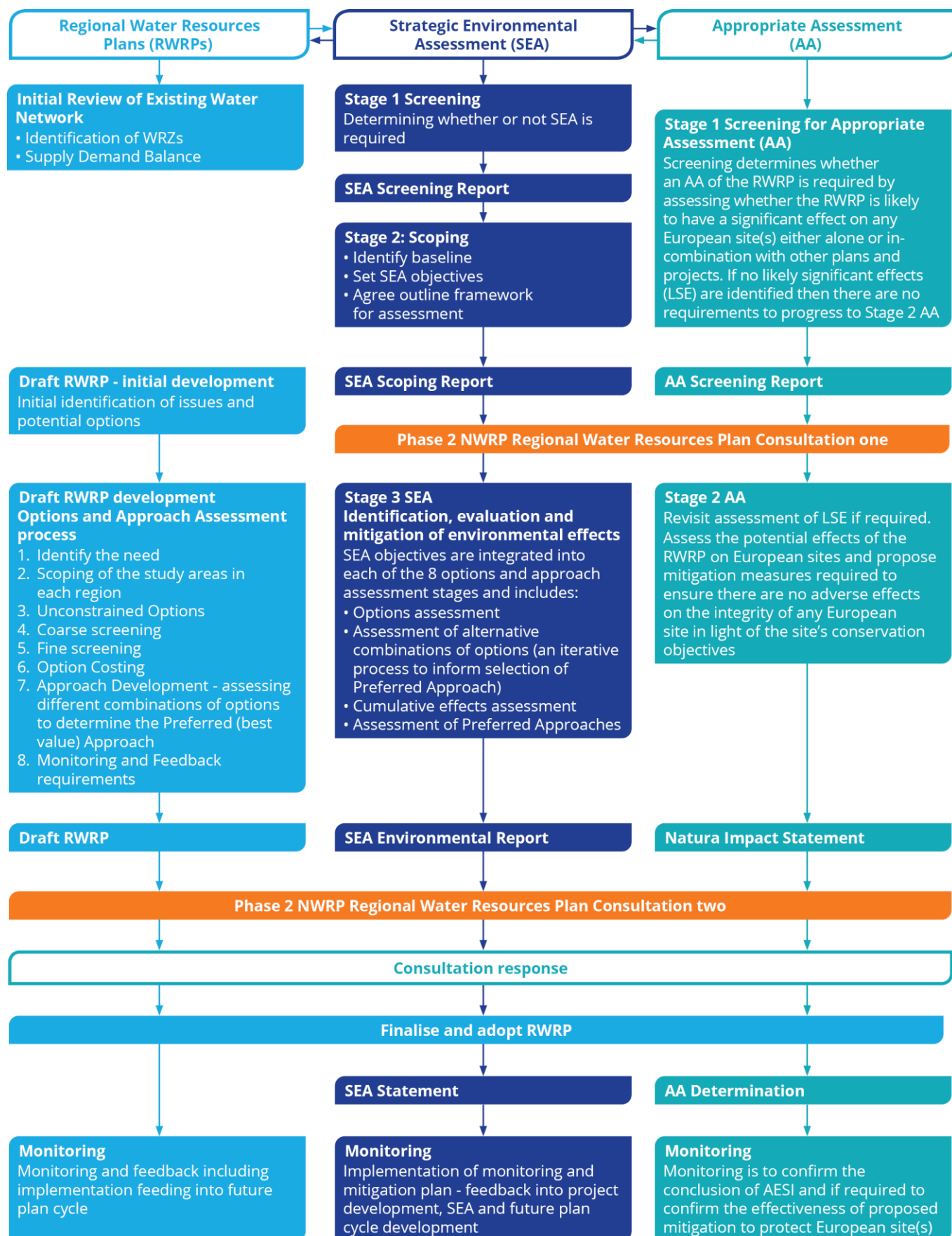


Figure 1.4 Integration between SEA and AA processes and development of the draft RWRP-EM

1.5 Consultation

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:

- The Environmental Protection Agency (EPA);
- Department of Housing, Local Government and Heritage (DHLGH);
- The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTACGSM);
- The Department of Agriculture, Food and the Marine (DAFM);
- Department of the Environment, Climate and Communications (DECC); and
- Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA) (related to transboundary issues).

This SEA Scoping Report is available online at the following website:

<https://www.water.ie/nwrp>

Further information requests and written submissions or observations can be sent to Irish Water by the **23rd July 2021**:

By post:

National Water Resources Plan,
Irish Water,
PO Box 13216,
Glenageary,
Co. Dublin.

By email:

nwrp@water.ie

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.

Scoping questions:

- Do you have any suggestions that you would like Irish Water to consider in the preparation of the RWRP-EM?
- Irish Water has reviewed plans, policies and programmes relevant to the RWRP-EM in Chapter 2 and Appendix B. Are there any others that should be considered?
- Do you have any comment on the current baseline environment conditions and future trends set out in Chapter 3 and summarised in Section 3.11?
- Do you have any comment on the SEA objectives that are set out in Table 4.1?
- How would you like Irish Water to communicate with you as the development of the draft Regional Plan progresses?

All submissions made on the SEA Scoping Report will be reviewed and relevant feedback incorporated into the SEA Environmental Report and draft RWRP-EM as appropriate. The issues raised, and the response will be summarised in the SEA Environmental Report. No potential for transboundary effects has been identified (see Section 4.2.1 for further detail).



2

Review of Relevant Plans, Policies and Programmes

2 Review of Relevant Plans, Policies and Programmes

This Section provides a summary of the plans, policies and programmes that have been identified as potentially important in development of the baseline environment and SEA objectives for the SEA of the draft RWRP-EM.

Scoping question: Irish Water has reviewed plans, policies and programmes relevant to the draft RWRP-EM in Chapter 2 and Appendix B. Are there any others that should be considered?

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, the relationship with the relevant policy, plan programme and legislative framework was explored in order to inform the scope of the SEA and to provide a focus for identifying the baseline environment and development of the SEA objective.

A comprehensive review of relevant national and regional level policies, plans, programmes and legislative framework of relevance to water resource planning, including related Irish Water plans and strategies, has been undertaken and consulted upon within SEA Environmental Report for the Framework Plan available at www.water.ie/nwrp. The identified documents will also be directly relevant to the draft RWRP-EM and are provided in Appendix B (Section B.1). Key influences identified at the national level which also apply to the RWRP-EM include:

- 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);
- River Basin Management Plan for Ireland 2018-2021 (due to be updated during 2021);
- General Scheme on Water Environment (Abstractions) Bill 2018;
- National Planning Framework – Project Ireland 2040;
- National Adaptation Framework Sectoral Adaptation Planning;
- Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region, RSES for the Southern Region and RSES for the Northern and Western Regional Assembly; and
- Related Irish Water plans and strategies including the Water Services Strategic Plan (Tier 1 plan), National Wastewater Sludge Management Plan, Lead in Drinking Water Mitigation Plan, Sustainable Energy Strategy - Climate Change Mitigation and Adaptation Strategy, Leakage Reduction Programme and National Disinfection Programme.

A focussed list of additional local level plans policies and strategies relevant to RWRP- EM specifically is provided in Section B.2 of Appendix B. Regional and local level plans likely to be key for the purposes of the SEA for the draft RWRP-EM fall under four main groups as follows:

- County Development Plans, Local Area Plans and Town Development Plans - Planning Authorities are legally required to make County and City Development Plans which sets an agenda for development to make adequate provision for the scale of population growth projected;

- County Heritage Plans and County Biodiversity Action Plans – these plans help ensure targets for species and habitat conservation in the National Biodiversity and Heritage Plans are effective at a local level;
- County Climate Change Adaptation Strategies and Climate Action Plans – these strategies and plans establish future climate risks at a local level and propose actions to adapt to currently observed and future climatic changes;
- County Landscape Character Assessments – these assessments classify and describe the landscape in a county; and
- Regional Waste Management Plans.

Other relevant plans, policies and strategies considered and listed within Appendix B include Conservation Plans, Renewable Energy Strategies, Community Biodiversity Action Plans and Noise Action Plans.



3

Baseline Environment

3 Baseline Environment

This Section sets the proposed geographical and temporal scope of the SEA for the RWRP-EM, and provides environmental baseline information on key environmental topics including:

- Population, Economy, Tourism and Recreation, and Human Health;
- Water Environment;
- Biodiversity, Flora and Fauna;
- Material Assets;
- Landscape and Visual Amenity;
- Air Quality and Noise;
- Climate Change;
- Cultural Heritage;
- Geology and Soils.

Scoping question: Do you have any comment on the current baseline environment conditions and future trends set out in this chapter and summarised in Sections 3.1-3.11?

3.1 Scope of the assessment

3.1.1 SEA geographical scope

As this stage of the assessment the core baseline area for the SEA of the draft RWRP-EM is the area covered by the nine Study Areas which comprise the EM region (see Figure 3.1) and sites designated for nature conservation that are hydrologically connected to waterbodies in the core baseline area (see Section 3.5 of the RWRP-EM Screening for AA at www.water.ie/nwrp). The assessment process undertaken for the SEA and AA (see Section 4.2) during evolution of the Plan will consider the potential

for linkages of this type, and where necessary, the geographic scope of the core baseline area will be extended accordingly.

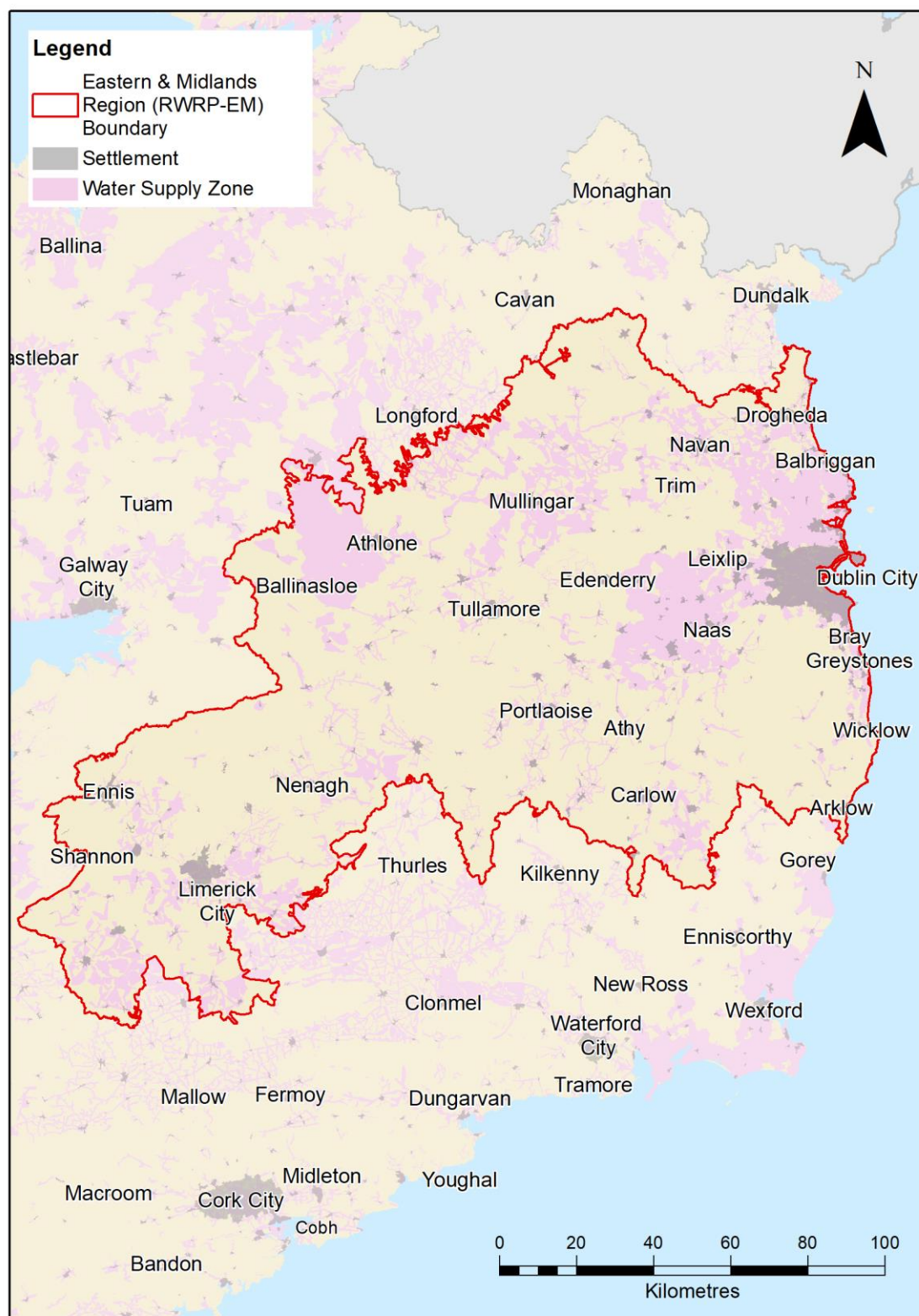


Figure 3.1 Water Supply Zones and Key Settlements in the Eastern and Midlands region

3.1.2 Transboundary Effects

The RWRP–EM will solely cover Irish Water’s operational area for the Eastern and Midlands which lies approximately 20km from the boundary between the Republic of Ireland and Northern Ireland (see Figure 3.1). Transboundary effects are not predicted on the basis that the border with Northern Ireland is at the distance noted, there are no shared groundwater WFD units, and that the one shared hydrometric

area (area 06 Newry, Fane, Glynde and Dee - a small area north of Drogheda) predominantly discharges to Dundalk Bay. Transboundary policies and plans have been reviewed as listed in Appendix B and potential for transboundary effects will be considered in the Environmental Report.

3.1.3 SEA temporal scope

The proposed temporal scope for the SEA is the 25-year period between 2021 and 2046 that is covered by the Framework Plan and draft RWRP-EM.

3.2 High level environmental trends in the EM region and across Ireland

The EPA's State of the Environment Report (EPA, 2020) provides:

- An assessment of the overall quality of Ireland's environment;
- An outline of the pressures being placed on this environment; and
- The key actions that can address these pressures.

The following areas identified as challenges to address across Ireland within this report are particularly pertinent to development of the EM-NWRP:

- **Climate:** high greenhouse gas (GHG) emissions continue, and the scale and pace of GHG reductions must accelerate to meet 2019 Climate Action Plan targets;
- **Water:** deteriorating water quality trends over the last 20 years, particularly for rivers; and
- **Nature:** deteriorating protected habitat trends, with 85% of EU protected habitats having unfavourable status. Trends for EU protected species are mixed, however freshwater species are most at risk and some freshwater species are under threat.

Waste and the circular economy and air quality are also areas where further action is needed to meet long term objectives and targets.

Further detail regarding the baseline environment for each of these topic areas is provided in the following sections.

3.3 Population, economy, tourism and recreation, and human health

3.3.1 Population

The EM region falls within six of the eight regional authority areas in Ireland. Table 3.1 provides an overview of the population of Study Areas within the draft RWRP-EM region and projected increases in population between 2019 and 2040. Each Study Area is divided into several WRZs, and the average percentage population increase during the Plan period anticipated across WRZs within each Study Area is also shown in Table 3.1.

Table 3.1: Overview of the population within the draft RWRP-EM Area

Study Area	Total population served (2019)	Population change 2019-2040 (%)
1	2,4047	17.6
2	6,841	12.9
3	87,873	155.5
4	72,140	44.2

Study Area	Total population served (2019)	Population change 2019-2040 (%)
5	72,140	23.1
6	126,665	17.8
7	31,237	16.7
8	236,896	30.3
9	1,702,245	21.0
draft RWRP-EM Area Total	2,360,083	27.4

3.3.2 Economy and Employment

Study Areas or parts of Study Areas located within Dublin, the Mid-East and Mid-West regions had a household disposable income per person in 2016 that was around or above the average for Ireland. Household disposable income was below the Ireland average in those areas located in the West, Midland and South East regions (CSO, 2020a).

Unemployment rates in 2017 were also highest in the Midland (10.1%) and Mid-West (8.7%) regions, and lowest in Dublin and the South East (see Table 3.2). However, unemployment data for Q3 2020 shows a very different pattern, with highest rates of unemployment seen in the Dublin followed by the South East (CSO, 2017a). Whilst the economic impact of COVID-19 has affected some employment sectors (for example tourism, hospitality, retail) more than others, it is uncertain how this trend might play out in the coming years.

Table 3.2: Unemployment rates in 2017 and Q3 2020

Region ¹	Unemployment rate 2017 (%) (CSO, 2017a)	Unemployment rate Q3 2020 (%) (CSO, 2020b)
Dublin	6.6	8.2
Mid-West	8.7	6.8
Midland	10.1	6.9
Mid-East	7.5	6.8
West	7.4	6.4
South East	6.4	7.7

¹See Figure 3.2 (Appendix A) for study area boundaries in relation to regions

Population increase and expected economic growth has meant that housing and sustainable urban development have been made a priority for the National Development Programme; therefore, to supply the demand there is the aim to increase housing stock. New dwelling completions for Q3 2019 and Q3 2020 are shown in Table 3.3. Whilst there was a drop in new dwelling completions of 13.6% between 2019 and 2020 across Ireland, associated at least partly with COVID-19 restrictions on the construction industry, the regional trend in completions has not altered with highest numbers seen in Dublin and the Mid-East in Q3 of both years. New dwelling completions in Dublin and the Mid-East represented 47.8% of the completions in Ireland in Q3 2020.

Table 3.3: New dwellings completed Q3 of 2019 and 2020

Region ¹	New dwellings completed in Q3 2019	New dwellings completed in Q3 2020
Dublin	1,912	1,145
Mid-West	326	347
Midlands	219	214
Mid-East	1,499	1,303
West	434	432
South East	397	441

¹See Figure 3.2 (Appendix A) for study area boundaries in relation to regions

3.3.3 Tourism and Recreation

Tourism has an important role in the core baseline area, particularly in rural locations, with the National Planning Framework (NPF) stating that tourism is a key aspect of rural job creation now and in the future (Government of Ireland, 2018). The core baseline area is located within Ireland's Ancient East, Hidden Heartlands and Wild Atlantic Way, three of Fáilte Ireland's tourism programmes in the country. The Ancient East is part of a tourism development strategy that covers the South, East and part of the Midlands, emphasising the importance of historic sites in the area (National Tourism Development Authority, 2016). Hidden Heartlands is located in the Mid-West, focussing on rural communities (Fáilte Ireland, 2020a), and Ireland's Wild Atlantic Way, which is Ireland's first long-distance touring route, aims to achieve greater visibility for the west coast of Ireland (Fáilte Ireland, 2020b).

Key tourist attractions located within the core baseline area are described below.

- The county of Wicklow (Study Areas 1 and 2) has been described as *"the garden of Ireland"*, containing Ireland's largest national park (Wicklow National Park) and emphasising outdoor recreation as a key asset for the area (Visit Wicklow, 2020).
- Boyne Valley (Study Area 3) has been described as *"Ireland's ancient capital"* and contains Ireland's UNESCO World Heritage Site at Brú na Bóinne (Newgrange and Knowth) as well as Ireland's largest Anglo-Norman castle at Trim (Meath County Council, 2020).
- The county of Westmeath (has been described as *"a county... where Ireland's Ancient East meets Ireland's Hidden Heartlands"* (Visit Westmeath, 2020) and Offaly as *"Ireland's hidden gem"* (Visit Offaly, 2020)
- The county of Roscommon (Study Area 5) has been described as the *"Land of Memories"*, with emphasis placed on the county's cultural and historical attractions (Visit Roscommon, 2020); the county of Galway also emphasises these aspects (Visit Galway, 2020).
- The county of Laois (Study Area 6) has been described as an *"outdoor enthusiasts paradise"* with emphasis also placed on the county's cultural and historical attractions (Laois Tourism, 2020); the county of Carlow also emphasises these aspects (Carlow Tourism, 2020).
- The county of North Tipperary (Study Area 7) has been described as the *"farming heartland of Ireland"* with emphasis also placed on the county's cultural and historical attractions (Tipperary Tourism, 2020). Additionally, the county of Offaly (Study Area 7) highlights the importance of the county's natural assets, such as bog lands and mountains (Visit Offaly, 2020).

- The county of Limerick (Study Area 8) includes Limerick City, the first city of culture, and emphasises the importance of sports in its touristic appeal (Limerick City and County Council, 2020). The county of Clare also emphasises the county's natural assets, particularly the rivers and lakes of East Clare (Visit Clare, 2020).
- The city of Dublin (Study Area 9) has been described as “a vibrant, cool and hip capital city bursting with a variety of surprising experiences – with sea and mountains at its doorstep”. It has also been identified as a priority segment and as one of Ireland's best prospects for growing tourism by the National Tourism Development Authority (2016).

Ireland's natural heritage is also recognised as an important tourism asset by the Department of Transport, Tourism and Sport (2019). Key natural heritage and outdoor recreation attractions within the core baseline area include:

- Study Areas 1 and 2: Wicklow National Park (Study Area 1 only) and the Glenealo Valley National Park and Glendalough and Vale of Clara Nature Reserves (both Study Areas);
- Study Area 3: the two main rivers in Meath, the Boyne and the Blackwater, join at Navan and is the most historic waterway in Ireland, rich in aquatic life, and the salmon and trout are recognised as among the finest in Ireland;
- Study Area 4: natures reserves of Raheenmore Bog and Scragh Bog, lakes of Westmeath;
- Study Area 5: Mongan Bog, Clara Bog and Redwood Bog;
- Study Area 6: Slieve Bloom Mountains, Timahoe Esker, Grantstown Wood and Grantstown Lough, and Coolacurragh Wood;
- Study Area 8: Dromore, Cahermurphy, Pollnaknockaun Wood, Derrycrag Wood and Rosturra Wood; and
- Study Area 9: Rogerstown Estuary, Baldoyle Estuary and North Bull Island Nature Reserves, and the Wicklow Mountains National Park (Visit Dublin, 2020).

Rivers, loughs and coastal areas across the core baseline area also all make an important contribution to tourism and recreational opportunities and support important fisheries.

3.3.4 Human Health

Table 3.4 provides well-being indicators for the core baseline area. Improvements in air quality, access to good quality drinking water and participation in recreation activity can all have a positive influence on health and well-being.

Table 3.4: Well-being indicators for the core baseline area

Region ¹	Life expectancy (CSO, 2017b)	Participation in sports, fitness or recreational physical activities (% of persons aged 15+) (CSO, 2020c)	Air quality (Environmental Protection Agency (EPA), 2020)
Mid-East	Male: 77.2 Female: 81.4	49	Good
Midland	Male: 77.2	47	Good

Region ¹	Life expectancy (CSO, 2017b)	Participation in sports, fitness or recreational physical activities (% of persons aged 15+) (CSO, 2020c)	Air quality (Environmental Protection Agency (EPA), 2020)
	Female: 81.5		
Mid-West	Male: 76.3 Female: 80.4	52	Good
West	Male: 77.1 Female: 82.7	56	Good
South East	Male: 76.8 Female: 81.7	44	Good
Dublin	Male: 76.7 Female: 81.2	61	Good

¹See Figure 3.2 (Appendix A) for study area boundaries in relation to regions

Key issues for public health include reliable access to good quality drinking water. Regulated water service providers have to ensure appropriate service standards of supply and be able to endure drought conditions, peak events, and maintenance downtime on their assets. This requires reserve capacity in supplies. At present, the supplies across the RWRP-EM region do not have the reserve capacity to meet these levels of service at all times. Due to the limited historical monitoring of these supplies, particularly in relation to groundwater, this will need to be studied further. Study Area 9 has a chronic capacity deficit and Irish Water's built assets are operating beyond their sustainable operating capacity on a daily basis and it is often necessary to depend on treated water storage to meet short term deficits.

Currently for day to day operations, the majority of WRZs within all RWRP-EM Study Areas suggest a SDB deficit (based on a "do minimum" approach) under present and future scenarios (see Table 3.5 for further detail). While sufficient in normal weather conditions, several would fail in drought. During the drought in Summer 2018, all of Irish Water's groundwater supplies were being monitored due to falling groundwater levels and a number of supplies were impacted in terms of quality or quantity including Dunlavin (groundwater) and Hackettstown, Carlow (surface water) in Study Area 3, Toberdaly (groundwater) and Lough Owel and Lough Lene (both surface water) in Study Area 4 and Pallasgreen, Oola and Hospital in Study Area 8. Water had to be supplemented via tankered supplies for those areas in Study Area 8 previously identified as particularly affected by the drought. Significant reductions in surface water flows were also identified on the River Maigue and River Deel.

Poor water quality can be linked to risks to health. In addition, based on desk study Water Treatment Plant (WTP) assessments, a significant number of supplies in every Study Area within the EM region appear to have significant water quality treatment risks (see Table 3.5), and further work is planned to provide more up to date and reliable assessments. As shown in Table 3.5 a number of supplies within the core baseline area are either on the EPA Remedial Action List (RAL) or are subject to an EPA direction, Irish Water are currently progressing corrective action in relation to many of these supplies in advance of the Regional Plans.

Table 3.5: Water quality supply risks

Study Area	Number of WRZs with SBD deficit (total number WRZs)	Number of supplies for which significant water quality risks have been confirmed	Number of supplies on EPA Direction or Remedial Action List (RAL)
1	14 (18)	16	1
2	9 (12)	11	1
3	10 (11)	17	4
4	9 (13)	13	2
5	7(11)	14	1
6	24 (28)	40	1
7	6 (10)	18	0
8	9 (32)	48	3
9	0 (2)	11	2

3.4 Water Environment

This topic covers geomorphology, WFD, flood risk, surface water quality and groundwater receptors. Figures 3.3 and 3.4 (Appendix A) show the baseline water environment within the core baseline area, including the WFD catchment boundaries and WFD status of rivers, lakes, canals, transitional and coastal waterbodies and groundwater bodies.

3.4.1 Water Framework Directive

Under the Water Framework Directive (2000/60/EC), Ireland must ensure that the waterbodies achieve “Good Status” by 2027. In addition, under the legislation any modification to a WFD water body should not lead to deterioration in either the overall status⁵ or any of the quality elements⁶. WFD waterbodies within each of the catchments which intersect the core baseline area are identified in Figures 3.3 and 3.4 (Appendix A).

The General Scheme on Water Environment (Abstractions) Bill 2018 (The Bill), to introduce abstraction licensing aligned to the WFD, was published in summer 2018. This legislation will set the amount Irish Water can take from the water supplies they abstract the water from. This will require at least 18% of Irish Water’s abstractions to be licensed and may limit abstraction at these sites in future. With their current fragmented supply networks and lack of an alternative supply in many cases, this could result in immediate impacts.

Irish Water will need time to adapt their operations and deliver the investment required to provide replacement or auxiliary supplies and put measures in place to reduce demand, where appropriate. The Bill acknowledges this and recognises that an adaptation period will be necessary to help Irish Water

⁵ The ecological status assigned for surface water bodies is determined by the status of the poorest quality element. Overall status of groundwater bodies is assigned based on the combined chemical and quantitative element statuses.

⁶ Surface water body status is assessed based on both ecological status or potential and chemical status. Ecological status includes various quality elements including biological elements, water chemistry and the physical condition of water bodies.

transition to this new regulatory landscape. The Bill expressly provides for this under Head 20, which deals with transitional arrangements and provides that Irish Water may continue to take water from a source of water after the passage of this Act; provided that that abstraction itself is included on the EPA's register before the Act commences. The method of abstraction and quantity of water taken will remain as it was before this new regime was introduced, but this can be varied by an abstraction licence issued by the EPA.

As there are very few long duration flow records for waterbodies within Ireland or for Irish Water's abstractions, they lack comprehensive data to fully understand the impact of the new legislation on these sources; therefore, improved monitoring and gathering better data is a priority.

Irish Water has developed an initial assessment of the current baseline situation using best available information. Over the coming years, Irish Water will work with the EPA and the Geological Survey of Ireland, to develop desktop and site investigation systems to better understand the sustainability of their groundwater sources.

Irish Water has also assessed surface water abstractions across the core baseline area with respect to potential conflicts with sustainability guidelines and WFD targets, with the following sources identified as being at potential risk:

- Three Wells Stream (Aughrim) and Mill Glen Stream (Rathdrum) in Study Area 1;
- Hackettstown WTP in Study Area 2 (appears to be compliant as long term abstraction requirement if <2% of Q95, but to be adjudicated by EPA);
- Lough Owel (Mullingar)) and Lough Leene (Ballany) in Study Area 4;
- River Gageborough (Clara/Ferbane) in Study Area 5;
- River Burren (Raheenleigh) and River Clodiagh in Study Area 6;
- River Deel (Foynes), River Mulkear (Newport), Loobagh River (Kilmallock) and River Allow (Freemount) in Study Area 8. It is proposed that the compensation flow releases controlled by the Electricity Supply Board (ESB) at Ardnacrusha dam will be maintained and, therefore, there is a low risk to sustainability reductions anticipated for the River Shannon abstraction at Clareville; and
- River Liffey, River Barrow, River Vartry and the River Dodder in Study Area 9.

Figures 3.3 and 3.4 (Appendix A) shows the locations of 'at risk' waterbodies within the core baseline area. The Department of Housing, Planning and Local Government's (2019) public consultation document regarding the significant water management issues has been considered by Irish Water. A total of 98 of the Areas for Action identified within River Basin Management Plan for Ireland 2018-2021 (DPH LG, 2018) fall within the core baseline area.

3.4.2 Flood risk

Flooding is becoming a bigger issue in Ireland; the frequency of flood events has been increasing and, with climate change, is expected to increase further. Increased flooding can cause pressure on drains and sewers and can affect water quality.

The 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 the Office of Public Works (OPW). The OPW has been implementing the Directive

mainly through the Catchment Flood Risk Assessment and Management (CFRAM) Programme, through which 29 draft Flood Risk Management Plans have been developed. Approximately 300 Areas for Further Assessment have been established along with a range of measures to reduce or manage the flood risk within each catchment. CRFAMS mapping for all Areas for Further Assessment is available to view on the CRAMS website (OPW, 2018).

Areas adjacent to the Lough Ree in Athlone, adjacent to the Shannon as far as Limerick, and adjacent to the Triogue, Figile and Barrow in in and around Portlaoise and Kildare are considered to have high probability (10% Annual Exceedance Probability (AEP)) of fluvial flooding. The Boyne Estuary between Drogheda and Slane is considered to have high probability of both coastal and fluvial flooding, as are many of the smaller estuaries.

3.5 Biodiversity, Flora and Fauna

3.5.1 Designated sites

European, national and local designated sites within the core baseline area include 39 Special Protected Areas (SPAs), 143 Special Areas of Conservation (SACs), 16 sites designated as Wetlands of International Importance (Ramsar sites), one national park, 62 Natural Heritage Areas and numerous proposed Natural Heritage Areas and nature reserves. There are also are a further two marine SACs and five marine SPAs that are not within the core baseline area but are hydrologically linked to it. The location of these sites in relation to the core baseline area is shown in Figure 3.5 (Appendix A).

3.5.2 Habitats

Figure 3.6 (Appendix A) illustrates the distribution of different habitat types across the core baseline area; as reported in the Corine land use dataset. Agricultural land uses dominate all Study Areas, with Study Area 1 having a relatively high degree of woodland land cover and Study Area 2 having a relatively high degree of wetland type habitats. There are also numerous small areas of Commonage Land located in the far southeast of the core baseline area between Dublin, Wicklow and Kildare, and also a smaller number of sites between Tullamore and Portlaoise and between Limerick, Shannon and Nenagh in the southwest (EPA, n.d.).

Particularly relevant habitats that depend on the water quality and/or quantity are:

- Turlough ecosystems associated with turloughs in the Roscommon area;
- Bog habitats – Active raised bogs, degraded raised bogs still capable of natural regeneration, transition mires and quaking bogs found through the core baseline area but which large areas south of Dublin between Bray and Wicklow, between Portlaoise and Tullamore and north of Limerick;
- Alkaline fens which are found throughout the core baseline area, but in particular towards the northwest of the core baseline area around Athlone and Mullingar; and
- Groundwater dependant terrestrial habitats, such as petrifying springs with tufa formation and blanket bogs.

3.5.3 Species

The key species and habitats of concern within the core baseline area (Nelson et al., 2019) include:

- Otter;

- Bat species - Daubenton's bat along the waterways with the most common species being Common and Soprano pipistrelles and Leisler's bat;
- Fish species (Lamprey, Atlantic salmon and European eel);
- Waterbirds of 'qualifying interest' e.g. Brent goose and winter migratory waders;
- Other 'qualifying interest' bird species e.g. Peregrine falcon, Curlew and Kingfisher;
- Protected whorl snails (*Vertigo geyeri* (particularly high sensitivity to changes), *Vertigo angustior* and *Vertigo moulinsiana*);
- Fresh-water pearl mussel; and
- Freshwater white-clawed crayfish.

With reference to Invasive Species Ireland (2015), the key invasive species to consider for developing options within the core baseline area include:

- Japanese knotweed;
- Himalayan balsam;
- Giant hogweed; and
- Elodea spp.

3.6 Material Assets

Material assets are considered to be the natural and built assets (non-cultural assets) required to enable society to function as a place to live and work, in giving them material value. Some of the natural assets within the core baseline area are shown on Figure 3.6 (Appendix A) such as, agricultural land, urban and forest areas.

Built assets include transport and communications infrastructure, and other developed areas, including existing water supply infrastructure. These assets all need to be taken into account in new water resource planning and infrastructure.

Key road, rail and air transport infrastructure within core baseline area are shown in Figure 3.2 (Appendix A). Key water transport infrastructure includes Dublin Port (Study Area 9) which is a 'Port of National Significance'. Ireland's canals once played a significant role as a transport network; however, the main uses are now for recreational and heritage purposes. Canals of note within the core baseline area include Royal Canal (within Study Areas 4 and 9) and the Grand Canal (within Study Areas 5, 6 and 9).

Any new infrastructure considered for the EM region will need to take existing, planned, land zoning and local development into consideration. At the time of writing (March 2020) there are 299 developments in the core baseline area listed on myProjectIreland (2020), with the significant majority located in SA9 in and around the Greater Dublin Area or in SA8 near Limerick City. These will be examined in further detail during the next stage of assessment (Environmental Report), along with any additional developments initiated in the intervening period.

Water resources and water quality are also influenced by urban, agricultural and forestry activity within river and groundwater catchments. This can affect the availability and quality of water for supply. Current land use within core baseline area is set out below:

- Agriculture – 75.5%;

- Urban – 3.7%;
- Natural habitats – 10.6%;
- Forest – 9.4%;
- Industry – 0.7%; and
- Other – 0.1%.

3.7 Landscape and Visual Amenity

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 taken into account when identifying landscape character areas and protected areas at the project level in the future.

The value of the landscape in the EM region is reflected in the baseline data provided in sections 3.3 (tourism and recreation), 3.5 (biodiversity) and 3.10 (cultural heritage).

Key landscape features within the core baseline area include Wicklow Mountains National Park, which comprises more than 20,000 hectares including mountains, upland blanket bog, lakes, wooded valleys and forestry plantations. Landscape Character Areas (LCAs) with high sensitivity in the RWRP-EM area are located to the north and south of Dublin such as the Tara Skyrne Hills LCA and surrounding lowland in Meath and Louth and Mountain Uplands LCA in Wicklow, as well as Castlecomer Plateaux in Kilkenny and areas between Athlone and Roscommon (EPA, n.d.).

3.8 Air Quality and Noise

3.8.1 Air Quality

Air quality is monitored and managed using Air Quality Zones and air monitoring sites. The majority of the core baseline area falls within Air Zone D: Rural Ireland (EPA, n.d.), and the air quality index rating of the core baseline area is rated as 'good' (EPA, 2020).

In general, the water industry is not a major contributor to air quality issues, although there is potential for local pollution through Irish Water vehicles, generator plants and drinking water residuals treatment facilities. There is a requirement to comply with air pollution regulations and also identify potential opportunities for reducing emissions.

3.8.2 Noise

The main areas within the core baseline area that experience noise pollution are located along M and N roads as shown in Figure 3.2 (Appendix A). Water infrastructure development is not expected to add significantly to noise pollution. Construction noise will be considered through scheme construction management and design for local receptors and for sensitive receptors in close proximity.

3.9 Climate Change

Ireland's current climate is heavily influenced by the Atlantic Ocean, consequently, Ireland has a milder climate that has less extreme temperature variation compared with other countries at a similar latitude. The hills and mountains, many of which are near the coasts, provide shelter from strong winds and from the direct oceanic influence. Winters tend to be cool and windy, while summers are generally mild and less windy (Met Éireann, 2019).

There are four aims that local authorities are required to include in their climate adaptation strategies (Department of Communications, Climate Action and Environment, 2018), these being:

- 1) Mainstream Adaptation: That climate change adaptation is a core consideration and is mainstreamed in all functions and activities across the local authority. Ensure that local authority is well placed to benefit from economic development opportunities that may emerge through commitment to proactive climate change adaptation and community resilience;
- 2) Informed decision making: That effective and informed decision making is based on reliable and robust evidence base of the key impacts, risks and vulnerabilities of the area. This will support long term financial planning, effective management of risks and help to prioritise actions;
- 3) Building Resilience: That the needs of vulnerable communities are prioritised and addressed, encourage awareness to reduce and adapt to anticipated impacts of climate change and promote a sustainable and robust action response; and
- 4) Capitalising on Opportunities: Projected changes in climate may result in additional benefits and opportunities for the local area and these should be explored and capitalised upon to maximise the use of resources and influence positive behavioural changes.

In addition to these high-level aims, each local authority is required to identify the key risks to their area. These are provided in Table 3.6.

Table 3.6: Climate change risks identified by counties in the core baseline area

County	Key risk areas										
	Flooding (pluvial, fluvial, groundwater or coastal or marine)	Extreme rainfall	Rising sea levels and storm surges	Storm frequency and intensity	Extreme cold/heavy snowfall and ice	Extreme heat/drought conditions	Bog, sand, dune, gorse or forest fires	Storm surges	Coastal erosion	Wind speeds	Air quality/aor pollution
Wicklow (Wicklow County Council, 2019)	x	x	x	x						x	
Wexford (Wexford County Council, 2019)	x		x	x	X	x	X				
Carlow (Carlow County Council, 2019)	x	x			X	x					
Kildare (Kildare Country Council, 2019)		x		x	X	x					
Cavan (Cavan County Council, 2019)		x			X	x				x	
Meath (Meath County Council, 2019)		x		x		x		x	x	x	
Louth (Louth County Council, 2019)	x	x	x	x	X	x	X	x			
Fingal (Dublin Climate Change, 2019)	x	x	x	x	X	x					
Westmeath (Westmeath County Council, 2019)		x			X	x				x	
Longford (Longford County Council, 2019)		x			X	x				x	
Offaly (Offaly County Council, 2019)		x			X	x				x	
Roscommon (Roscommon County Council, 2019)		x			X	x				x	
North and South Tipperary (Tipperary County Council, 2019)	x					x					

County	Key risk areas										
	Flooding (pluvial, fluvial, groundwater or coastal or marine)	Extreme rainfall	Rising sea levels and storm surges	Storm frequency and intensity	Extreme cold/heavy snowfall and ice	Extreme heat/drought conditions	Bog, sand, dune, gorse or forest fires	Storm surges	Coastal erosion	Wind speeds	Air quality/aor pollution
Laois (Laois County Council, 2019)		x			X	x	X			x	
Kilkenny (Kilkenny County Council, 2019)	x	x			X	x					x
Clare (Clare County Council, 2019)	x	x		x		x					
Cork (Cork County Council, 2019)	x				X	x			x	x	
Galway (Galway County Council, 2019)	x	x	x	x		x					
Limerick City and County (Limerick City and County Council, 2019)	x				X	x			x	x	
Dún Laoghaire-Rathdown (Dublin Climate Change, 2019)	x		x	x	X	x					
Dublin City (Dublin Climate Change, 2019)	x		x	x	X	x					
Fingal (Dublin Climate Change, 2019)	x		x	x	X	x					
South Dublin (Dublin Climate Change, 2019)	x		x	x	X	x					

In addition, Ireland has a sectoral climate adaptation plan for the 'Water Quality and Water Services Infrastructure' sector. A summary of this report's findings is included in Table 3.7.

Table 3.7: Summary of key point from the 'Water Quality and Water Services Infrastructure' sectoral climate change plan (Department of Housing, Planning and Local Government, 2019b)

Summary	
Key Points	<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 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

Climate change is expected to influence weather conditions such as frequency of droughts and extreme events such as storms and is likely to affect habitats and species, water availability for supply and water demand. Across the core baseline area there are many supplies which do not meet the required levels of reserve capacity. As evidenced in the 2018 drought, there is the potential for these deficits to effect access to water in the future. Supporting environmental resilience to climate change will also be an important consideration for the future with additional benefits for supply resilience.

3.10 Cultural Heritage

There is one UNESCO World Heritage Site (WHS) within the core baseline area, Bru Na Boinne in Drogheda, and a further nine sites which are listed on the Tentative List (EPA, n.d.). There are a small number of Irish Landmark Trust sites located in Dublin, Celbridge and Wicklow (EPA, n.d.), as well as numerous designated and non-designated cultural heritage assets inventoried in the Record of Monuments and Places, the Sites and Monuments Record (SMR), the Record of Protected Structures, and the National Inventory of Architectural Heritage (NIAH). In total there are 43,354 sites recorded by the National Monuments Service and 18, 558 sites recorded on the NIAH. Given the number of small

sites across the core baseline area, these are best viewed on the Department of Arts, Heritage and the Gaeltacht's (2020) 'Historic Environment Viewer' website.

There are also potentially unknown, undesignated archaeological and architectural remains, throughout Ireland.

3.11 Geology and Soils

The geology and soils in the environment can impact the quality and quantity of water in the area through differences in drainage, chemical composition, filtration and resultant land use; which can also have a significant impact. The water supply can be heavily impacted by the type of aquifer in the area, as they impact the system's ability to store and transmit groundwater.

Figure 3.7 (Appendix A) shows the geology of the core baseline area, with particular reference to potential aquifers. To the southeast of the core baseline area, with Study Areas 1 and 2, the underlying geology is granite with older Ordovician and Silurian rocks at the northern extents. In these Study Areas the bedrock geology is classified as Locally Important Aquifer/Poor Aquifer. Within the centre and west of the core baseline area, including Study Areas 5, 6, 8, northern extents of Study Area 7 and southern extents of Study Area 9, limestone and karstic limestone bedrock units are classified as Regionally Important Aquifers. Heading north there is also a Regionally Important gravel aquifer in Study Area 9 around the Newbridge area, whilst in Study Area 2 and Study Area 4 both limestone and gravel aquifers are considered Locally Important.

A fine loamy soil type is dominant across the majority of the core baseline area, interspersed with small areas of peaty soils, and transitioning towards clayey drift to the far south of Study Area 8.

Important geological and geomorphological sites could be conserved as NHAs, however, until designation is confirmed, these sites are classified as Irish Geological Heritage Sites (IGHS). There are over 900 IGHS identified around Ireland, including 331 within the core baseline area (see Figure 3.5, Appendix A).



4

Proposed Scope of Assessment and Methodology

4 Proposed Scope of Assessment and Methodology

This Section provides the proposed SEA objectives for the draft RWRP-EM, outlines the approach to assessment for Preferred Approach and alternatives as has been formalised through the Framework Plan, and sets the proposed structure of the Environmental Report

Scoping question: Do you have any comment on the scope of assessment set out in Table 4.1?

Scoping question: Do you have any comment on the SEA objectives that are set out in Table 4.2?

4.1 Scope of Assessment

All aspects of the environment will need to be considered as individual schemes are taken forward for further design and implementation but key issues relevant for strategic water planning have been identified for the EM region through a review of relevant plans, policies and programmes as set out in Chapter 2 and of the environmental baseline as set out in Chapter 3. Table 4.1 sets out the key issues and trends identified and provides the proposed scope of assessment for the Environmental Report.

Table 4.1: Scope of assessment

SEA Topic	Issues and opportunities	Scoped into assessment?
Population, Economy, Tourism and Recreation, and Human Health	<p>Issues: increasing population and the increased stress of climate change on water quality and water resources could affect health and well-being.</p> <p>Opportunities: Irish Water will put in place plans to assess water quality and put in place measures to address risks as part of the NWRP.</p> <p>Irish Water has ongoing activities to improve the Supply Demand Balance across the EM region, including, leakage management and water conservation measures.</p> <p>Raising awareness of the importance of water conservation and efficiency measures, and the value of the environment for health and wellbeing, can play an important part in water planning along with valuing water as part of access to environment for recreation.</p>	✓
Water Environment	<p>Issues: The proposed abstraction licensing, aligned to WFD requirements, will require many current abstractions to be licensed and may limit future abstraction or involve significant conditions at associated sites. Across the EM region some of the existing abstractions are potentially unsustainable in the medium term; specifically, during drought periods.</p> <p>Irish Water will need to update their sustainability analysis and impact on their baseline SDB calculations when regulatory assessment for new legislation are undertaken.</p> <p>Opportunities: to take account of identified pressure on the water environment in the selection of solutions for individual Study Areas</p>	✓

SEA Topic	Issues and opportunities	Scoped into assessment?
Biodiversity, Flora and Fauna	Issues: it is considered especially important to avoid the loss of irreplaceable or rare habitats and increasing pressure on vulnerable species; potentially through direct land take or indirect such as through increased abstraction pressure	✓
Material Assets	Issues: WTP assets and network infrastructure requiring improvement or replacement. Opportunities: improvements to support reliability of access to good quality water	✓
Landscape and Visual Amenity	Issues: potential for climate change to affect land use and influencing landscape character, quality and amenity	✓
Air Quality and Noise	No specific issues identified for the baseline for the EM region related to the types of options and combinations under consideration for the Regional Plan and disturbance related to construction impacts are addressed in terms of receptors within the population and health topic.	X
Climate Change	Issues: Climate change issues regarding sea level rise, flooding, extreme weather events and changes in seasonal weather patterns. Climate change has been taken into account in supply forecasts and additional risks to infrastructure and operations will need to be taken into account in planning for drought and freeze/thaw events and in detailed scheme design and network operation. Opportunities: additional management to minimise impact on supply and the environment, vulnerability to climate change and drought is required.	✓
Cultural Heritage	Issues: known cultural heritage and archaeological assets and potential unknown archaeological assets could be affected by construction works or change to setting or access. Potential for hydrological changes to affect heritage and archaeological assets.	✓
Geology and Soils	No specific issues although general need for good soil conservation and retention of nutrients and carbon in soil resources.	✓

4.2 Proposed SEA Objectives

Proposed SEA objectives for the draft RWRP-EM are set out in Table 4.2 below. These have been developed taking into account the baseline information and key trends for the core baseline area provided in Section 3 and the review of relevant plans, policies and programmes as summarised in Section 2. At least one SEA objective has been identified against each of the SEA topics discussed in Section 3.

Table 4.2: SEA objectives

Strategic Environmental Assessment topic	SEA Objective	SEA option/approach assessment questions** (these questions are used to inform the assessment against the objectives for individual options and combinations of options)
Population, economy, tourism and recreation, and human health	Protect and, where possible, contribute to enhancement of human health and wellbeing and to prevent restrictions to recreation and amenity facilities in undertaking water services.	<p>Will the construction and operation of the option/approach impact public health and quality of life in terms of improved supply security or access to water?</p> <p>For example, will the construction or operation of the option/approach cause significant disturbance to sensitive receptors from dust, noise and/or traffic*? Or does the option address drinking water quality issues that are identified on the EPA remedial action list?</p> <p>Will the option/approach result in loss of recreational amenity, footpaths, or access to recreational amenity (including water based recreation and navigation)?</p> <p>Does the option/approach help to raise public awareness of the need for water conservation?</p>
Water environment	<p><u>Water quality and resources</u></p> <p>Prevent deterioration of the WFD status of waterbodies, with regard to quality and quantity due to Irish Water's activities and contribute towards the "no deterioration" WFD condition and, where possible, to the improvement of waterbody status for rivers, lakes, transitional and coastal waters and groundwater to meet their WFD objectives.</p>	<p>Would the option/approach operation or associated construction activities create the potential for deterioration of waterbody status/quantitative status or conflict with or contribute to potential to achieve RBMP/WFD objectives for achieving good status (groundwater and surface water)? (covering surface water, groundwater and river channel/hydro-morphological aspects)</p> <p>For example, related to impacts from additional abstraction pressure on sources or does the option/approach address risk to the water environment from drinking water treatment residuals?</p> <p>Would the option/approach reduce pressure on the water environment through water savings or improvements to water quality?</p>
	<p><u>Flood risk</u></p> <p>Protect and, where possible, reduce risk from flooding as a result of Irish Water activities.</p>	<p>Is there a potential for this option/approach to increase flood risk, for example increase base flow or result in loss of flood plain?</p>
Biodiversity	Protect and, where possible, enhance terrestrial, aquatic and soil biodiversity; particularly European sites and protected	Is there potential for the option/approach to result in significant adverse or beneficial effects on European or nationally designated sites (for example, by undermining the European sites' conservation

Strategic Environmental Assessment topic	SEA Objective	SEA option/approach assessment questions** (these questions are used to inform the assessment against the objectives for individual options and combinations of options)
	species in undertaking water services.	<p>objectives through direct or indirect effect pathways, including but not limited to direct loss of habitat, changes in hydrology) and/or terrestrial and aquatic populations of European or nationally protected species?</p> <p>Is there potential for this option/approach to result in significant adverse or beneficial effects national, county or local, designated sites or biodiversity interest (for example flora and fauna protected under the Flora Protection Order, Salmonid Regulations, 1988 and/or the Wildlife Act, 1976), for example through loss of significant areas of ecologically valuable habitat (woodlands/hedgerows/wetlands) and in particular irreplaceable habitats (ancient or long-established woodlands) or by undermining biodiversity objectives outlined in the National Biodiversity Action Plan or local county development/biodiversity action plan?</p> <p>Could this option/approach contribute to a significant increased risk in spreading Invasive Non-Native Species (INNS)?</p>
Material assets	Minimise resource use and waste generation from new or upgraded existing water services infrastructure and management of residuals from drinking water treatment - to protect human health and the ecological status of waterbodies. Minimise impacts on other material assets and existing water abstractions.	<p>Will this option/approach conflict with critical infrastructure, or does the option conflict with existing business, planned land use or result in the loss of significant area of valuable agricultural land?</p> <p>Does the option/approach make use of suitable existing assets</p> <p>Would this option/approach affect other water users, for example through effects on existing groundwater abstractions*** or navigation?</p>
Landscape and visual amenity	Protect and, where possible, enhance designated landscapes in undertaking water services.	Could this option impact landscape character areas, townscape character areas or important views – detract or improve?
Climate change	<u>Climate change mitigation</u> Minimise contributions to climate change emissions to air (including greenhouse gas emissions) as a result of Irish Water's activities.	What is the level of construction and operational carbon emissions associated with the option/approach – using indicator of level of emissions such as scale of construction or energy use or estimated tonnes?

Strategic Environmental Assessment topic	SEA Objective	SEA option/approach assessment questions** (these questions are used to inform the assessment against the objectives for individual options and combinations of options)
	<u>Climate change adaptation</u> Promote the resilience of the environment, water supply and treatment infrastructure to the effects of climate change.	Does the option/approach increase climate change vulnerability for the environment or add resilience?
Cultural heritage	Protect and, where possible, enhance cultural heritage resources in undertaking water services.	Does this option have potential to damage, or detract from the setting of, designated cultural heritage assets or result in the loss of potential archaeological interest, or does this option contribute to protecting them?
Geology and soils	Protect soils and geological heritage sites and where possible contribute towards the appropriate management of soil quality and quantity.	Would any designated or non-designated geological features be damaged by an option, or is there a risk to significant areas of valuable soils or are there risks from contaminated land? Or could the option support improvement to soil quality and reduce erosion risks?

*Air quality and noise are scoped out of this plan level assessment but short term disturbance impacts from noise and air pollution during construction are addressed for receptors in population, recreation and human health and biodiversity topics.

**These questions are used in the assessment of individual options and combinations of options against the SEA objectives. All questions can be responded to by recording either negative adverse or positive beneficial effects/risks. These questions are used as basis for the multi-criteria analysis (MCA) scoring and this fine screening assessment can identify showstoppers and reasons for removing options.

***Information on non Irish Water abstractions may not be available at strategic level and will need to be considered at project level.

In addition to the topic specific objectives, interrelated aspects are also considered, where there are potential effects across a number of topics as set out in Section 4.3.

4.3 Interrelationships between SEA topics

In accordance with the SEA Directive, it is a requirement to recognise the interrelationships between environmental topics, as changes to one environmental aspect can directly or indirectly influence others. Figure 4.1 below details the potential interrelationships between SEA topics.

Water environment								
Biodiversity, (including flora and fauna)								
Material assets								
Landscape and visual amenity								
Air quality and noise *								
Climate change								
Cultural heritage (including architectural and archaeological)								
Geology and soils								
	Population, local economy, tourism and recreation, and human health	Water environment	Biodiversity (including flora and fauna)	Material assets	Landscape and visual amenity	Air quality and noise *	Climate change	Cultural heritage (including architectural and archaeological)

Figure 4.1 Interrelationships between SEA topics

4.4 Assessment Approach

A detailed description of the approach to assessment for the draft RWRP-EM, including the assessment of within-plan and inter-plan cumulative effects, is set out in Sections 9.11.2 to 9.11.5 of the SEA Environmental Report for the Framework Plan which can be found at the following weblink:

www.water.ie/nwrp

The eight stage options and approach assessment process is outlined in Figure 1.3. The aim of the process is to understand the requirements and then to identify potential solutions to address these. The SEA objectives and assessment criteria provide a framework for integrating the environmental assessment throughout this process alongside the other criteria taken into account such as feasibility, deliverability, resilience and cost. The stages are also summarised below:

Stages 1 and 2 identify the water supply needs taking account of baseline assessments for both water resource and quality needs and constraints over the plan period including calculation of the supply demand balance taking account of planned growth and resource supply and considering climate change effects.

Stage 3 Unconstrained options: these are all the potential options to be considered to resolve water quality or quantity requirements. Identification of potential options includes an initial high level consideration of hydrological and hydrogeological constraints and WFD requirements;

Stage 4 Coarse screening involves a high level review of the unconstrained options against a range of criteria including environmental sustainability criteria and rejection of options considered not to be viable likely to result in significant environmental effects on important receptors such as European sites and would be difficult to avoid or mitigate. Information on options and constraints is also collected to inform the next stage;

Stage 5 Fine screening – this stage includes a comparative options assessment and scoring against the environmental objective criteria for each SEA objective. This stage allows further consideration of the options and removal of options considered unfeasible or unlikely to be environmentally acceptable.

Stage 6 Feasible option list – the remaining options are developed further including costing and review of environmental assessment scoring as part of the Multi Criteria Analysis (MCA).

Stage 7 Approach Assessment - After the feasible options for the study area are identified the next step is to assess a range of possible combinations to resolve the supply deficit within each water resource zone (WRZ) and across the study area as a whole. Six approaches are compared which are the combinations rated as the best within the six categories summarised in Table 4.3. This process contributes to assessment of alternatives to meet plan objectives. Consideration of reasonable alternatives is an important part of meeting SEA regulatory requirements. The terminology used to describe options/approaches at each spatial level of the Framework Plan is shown in Table 4.3.

Table 4.3 The Six Study Area approaches

SA Approaches Tested	Description	Policy Driver
Least Cost (LCo)	Lowest Net Present Value (NPV) cost in terms of Capital, Operational, Environmental and Social costs and carbon.	Public Spending Code
Best Appropriate Assessment (Best AA) (BA)	Lowest score against the European Sites (Biodiversity) question. Options scoring -3 are given a high-risk score and better approaches for these options are identified where possible.	Habitats Directive
Quickest Delivery (QD)	Based on an estimate of project lead in time (including typical feasibility, consent and construction durations) as identified at Fine Screening. May be required for urgent Public Health issues.	Statutory Obligations under the Water Supply Act and Drinking Water Regulations
Best Environmental (BE)	Best score across all environmental criteria focusing on sum of negative scores as the key indicator and also considering high-risk scores (-3 scores) and long term impacts.	SEA Directive and Water Framework Directive
Most Resilient (MR)	Best resilience score against resilience criteria.	National Adaptation Plan
Lowest Carbon (LC)	Lowest embodied and operational carbon cost.	Sectoral Adaptation Change

These six approaches focus on different plan or environmental objectives. Three approaches address environmental objectives (highlighted green above), and these are:

- Best AA;
- Best Environmental; and
- Lowest Carbon approaches.

These are all focused on environmental criteria and are based on the environmental information and scoring undertaken for the MCA.

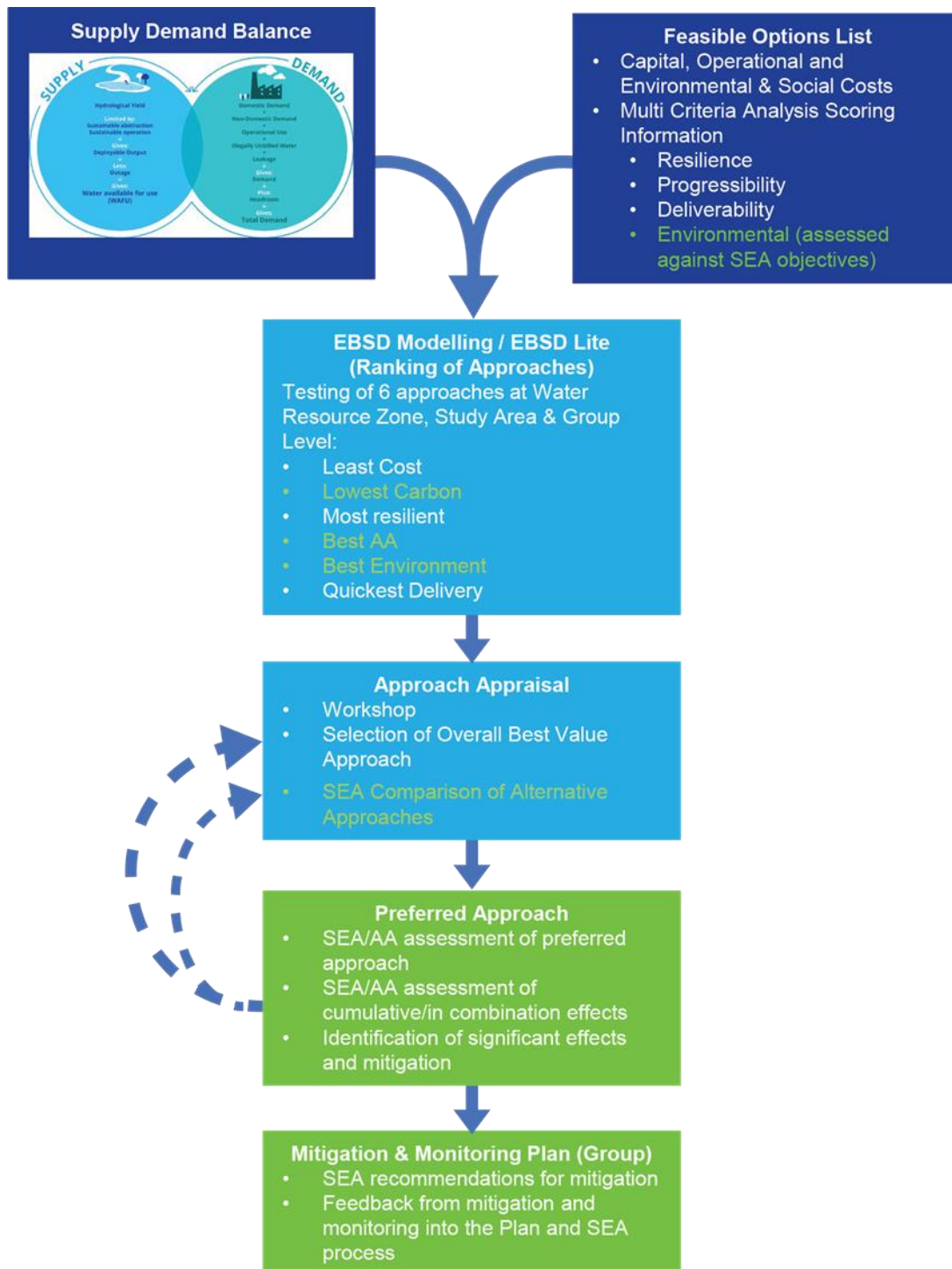


Figure 4.2 Approach Development Process

The approach assessment process is undertaken through structured workshops involving relevant environmental expertise and information on the feasible options; including the environmental assessment against SEA criteria in the MCA and the option costings. This provides stepped testing of the six approaches to identify the best overall options at the WRZ, study area and regional levels.

Stage 8 Monitoring and feedback – will include the implementation of the SEA recommendations for mitigation and monitoring and influencing downstream actions and providing the basis for feedback into future plans and assessments.

A summary of the key elements of the environmental assessment process is provided below:

- 1) **Option level assessment:** all feasible options will be assessed as part of the MCA and scored against the SEA objectives set out in Table 4.2. These are used to inform the selection of options and the approach comparisons.

SEA option assessment summaries, which will record assessment against SEA objectives using a matrix based approach, will be provided for all Preferred Approach options for each Study Area and also for any regional level preferred options or alternatives. The nature of effects (temporary short term or long term, permanent), significance of effects and level of certainty in assessment outcomes will be recorded as shown in Table 4.4. The significance of effect is determined in accordance with Table 4.5 and moderated by professional judgement where required. The assessment takes into account the value/sensitivity of affected receptors, as well as the magnitude of the impacts anticipated.

Table 4.4 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 4.5 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	+++
<u>Value/sensitivity of receptors</u>						
Low value receptors(s) = locally important and/or resilient to losses and substitution and/or limited capacity for enhancement						

Magnitude of impact	Baseline value/sensitivity		
	Low	Medium	High
Medium value receptor = regionally important and/or with some resilience or capacity to accommodate losses of substitution or enhancement			
High value receptor = nationally important and/or with very limited resilience or potential to accommodate losses or substitution or substantial capacity for enhancement			

- 2) **Study area level assessment:** an assessment of each approach, including the 'Do Minimum' approach, will be prepared for each study area. Differences between the approaches will be explained and justification for the selected Preferred Approach will be set out. Mitigation measures associated with the individual options in the Preferred Approach will be provided.
- 3) **Study area level cumulative effects:** the potential for cumulative effects against the SEA objectives will be considered. This will include 'within plan' cumulative effects (i.e. between options or groups of options included within the Preferred Approach) and 'with other developments' cumulative effects (i.e. with other developments within the study area).
- 4) **Regional level assessment:** an assessment of the potential cumulative effects arising from the Preferred Approaches identified for at study area level, as well as any regional level options, will be undertaken. The assessment will be presented in matrix format, with the significance of effect recorded against each SEA objective as per Table 4.6.

Table 4.6 Significance of effects (regional level assessment)

Key			
Likely to have a positive effect	+	Likely to have a mixed positive and negative effect	+/-
Likely to have a negative effect	-	Likely to have mixed neutral and negative effect	0/-
Effects are uncertain or not applicable	? or N/A	Likely to have mixed neutral and positive effect	0/+
Likely to have a neutral effect	0		

- 5) **Regional level cumulative effects** - the SEA Environmental Report for the Framework Plan also refers to a further step which involves assessment of potential cumulative effects associated with either i) inter-regional options (such as transfers between regions) or ii) cumulative effects between Regional/Group Area Preferred Approaches. The RWRP-EM is the first Regional Plan to be developed, and therefore limited information is likely to be available regarding approaches included in Regional Plans for other regions. An inter-regional level assessment will be carried out to the extent possible, based on information currently available regarding approaches for the other regions. As subsequent Regional Plans are developed, the Environmental Report which accompanies them will consider the inter-regional cumulative effects with all preceding Regional Plans including the RWRP-EM.

4.4.1 Transboundary Effects

The potential for transboundary effects and cumulative effects with key relevant plans and proposed developments in Northern Ireland are scoped into assessment and will be considered through the SEA options and approach assessment for the draft RWRP-EM.

4.4.2 Appropriate Assessment

A Stage 1 (Screening) Assessment for the draft RWRP-EM has been undertaken and is available to view at www.water.ie/nwrp and concludes that a Stage 2 Appropriate Assessment is required. The SEA assessment will be informed by the Appropriate Assessment for the draft RWRP-EM, as illustrated within Figure 1.4 which shows how the SEA and AA processes are integrated with each other and with development of the Plan.

4.5 Structure of the Environmental Report

Table 4.6 sets out the proposed structure for the SEA Environmental Report for the draft Regional Plan. The Environmental Report will summarise the findings of the SEA assessment at regional level, provide the assessment of regional level cumulative effects and set out the proposed approach for mitigation and monitoring. The main report will be supported by an individual Environmental Review report for each Study Area which will provide detailed baseline context for each Study Area, assessment of the options screening process and feasible approach, assessment of the Preferred Approach and alternatives at Study Area level (including ‘within plan’ and ‘with other development’ cumulative effects) and Study Area specific mitigation and implementation recommendations.

Table 4.7 Draft RWRP-EM: SEA Environmental Report Structure

Structure
Chapter 1 – Introduction and Background
Chapter 2- Consultation and Policy Context
Chapter 3 – Overview of draft RWRP-EM Strategic Area – summary of baseline
Chapter 4 – Options and Approach Assessment Methodology
Chapter 5 – Study Area Assessment Summaries
Chapter 6 – Cumulative Effects at Regional Level
Chapter 7 – Preferred Approaches Regional Level Assessment
Chapter 8 – Mitigation and Monitoring Plans
Chapter 9 – Next Steps
Glossary
Acronyms
References
Appendices (including Environmental Reviews for each Study Area) and Policy and Plan review



5

Next Steps

5 Next Steps

The next stage of development of the draft RWRP-EM will be the options development process, including the identification of potential options, coarse and fine screening and completion of the approach appraisal process alongside the environmental assessment as outlined in Section 1.3.4. The draft RWRP-EM Regional Plan, SEA Environmental Report and NIS are currently anticipated to be published for consultation in the Autumn of 2021.

Glossary

Term	Definition
Abstraction	The process of taking water from any source, including rivers and aquifers
Appropriate Assessment (AA)	An assessment required under the Habitats Directive when a plan or project has the potential to affect a European site
Aquifer	A water-bearing rock that groundwater can be extracted from
Baseline condition	The state of the environment in the absence of the NWRP Framework
Catchment	The total area of land that drains into a watercourse
CSO	Central Statistics Office
Cumulative effect	The combined effects from several plans, programmes or policies
Deficit	The amount of water shortage between supply and demand
Environmental Report (SEA Environmental Report)	The SEA report that documents the effects of measures outlined in a plan
EPA	Environmental Protection Agency
Gross Domestic Product (GDP)	Gross Domestic Product is a monetary measure of the market value of all goods and services produced in a period (in this case annually)
GSI	Geological Survey Ireland
IGH	Irish Geological Heritage
Invasive species	Non-native species that out-compete native species to the detriment of an ecosystem
LSEs	Likely Significant Effects
MCA	Multi-Criteria Analysis
Mitigation	The implementation of measures designed to reduce the predicted effects of a plan or project on the environment
National Climate Change Adaptation Framework	National Climate Change Adaptation Framework
National Water Resources Plan (NWRP)	A plan developed by water companies to deliver a long-term provision of water to accommodate the impacts of population growth, drought, their environmental obligations and climate change uncertainty in order to balance supply and demand for water. These are produced cyclically, at least every five years, with a minimum 25-year planning horizon.
NHA	National Heritage Area
Natura Impact Statement (NIS)	The statement prepared following AA of European sites as required under the Habitats Directive, which presents information on the

Term	Definition
	assessment and the process of collating data on a project and its potential significant impacts on European sites.
NIAH	National Inventory of Architectural Heritage
NPWS	National Parks and Wildlife Service
pNHA	Proposed National Heritage Area
Ramsar site	An international designation for an important wetland site under the Ramsar Convention
River Basin Management Plan (RBMP)	A key element to the WFD, taking an integrated approach to the protection, improvement and sustainable use of the water environment; including all surface water and groundwater bodies
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
Special Area of Conservation (SAC)	An international designation for habitats and/or species under the Habitats Directive
Special Protection Area (SPA)	A site of international importance for birds, designated as required by the Birds Directive
Strategic Environmental Assessment (SEA) Objectives	Methodological measures against which the effects of the NWRP can be tested
Supply Demand Balance (SDB)	The SDB is the deficit or surplus between the supply and demand both now and over the 25-year horizon
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WFD	Water Framework Directive
Water resource management	The management of water sources and demands to minimise any deficit between the two
Water Resource Management Plan	A plan designed to identify water deficits and outline measures that can reduce the deficit
Water Resource Zone (WRZ)	The largest possible zone in which all resources, including external transfers, can be shared and all customers experience a similar risk of supply failure from a resource shortfall
WTP	Water Treatment Plant

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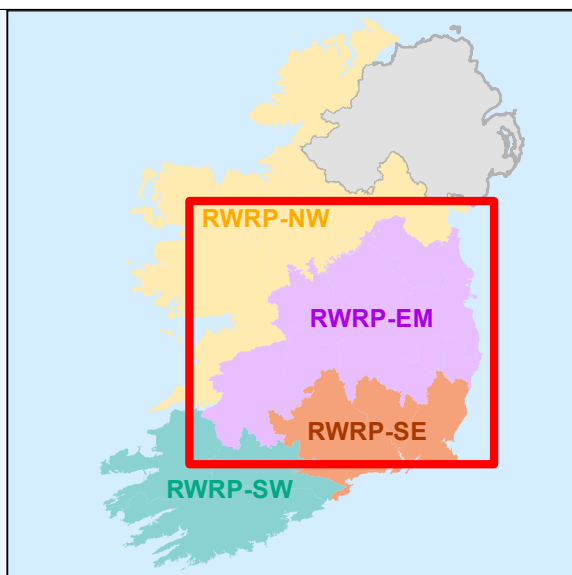
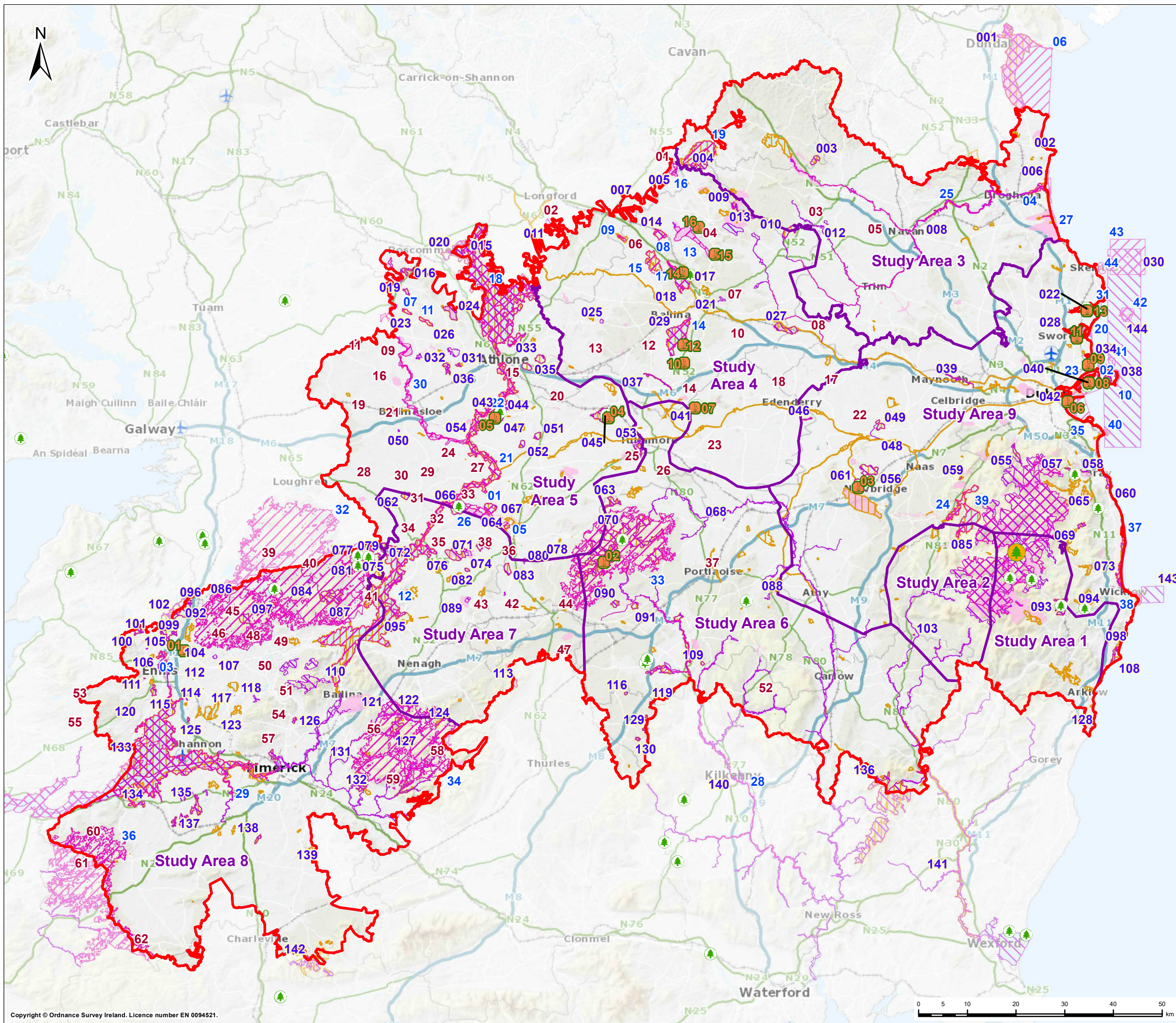
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Appendix A Figures



Legend

- Ramsar Site
- Wicklow Mountains National Park
- Nature Reserve
- Core baseline area
- Study area boundary
- Special Area of Conservation
- Special Protection Area
- Natural Heritage Area
- Proposed Natural Heritage Area
- Geological Heritage Site

Reference Labels Key

- xx: Ramsar Site Reference Label
- xx: NHA Reference Label
- xx: SPA Reference Label
- xx: SAC Reference Label

0	09/04/2021	DRAFT	RL	MO	RV	BF
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd



Project REGIONAL WATER RESOURCES PLAN
EASTERN & MIDLANDS

Drawing Title BIODIVERSITY CONTEXT:
OVERVIEW

Drawing Status DRAFT

Scale @A3 1:750,000 DO NOT SCALE

Filepath \\gis\projects\2021\2021-2024_RWRP\GIS\Assets\BiodiversityContextOverview.mxd

Drawing No. FIGURE 3.5

This drawing is not to be used in whole or in part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions.

SACs		SAC name	Label	SAC name	Label	SAC name	Label	SAC name	Label	SAC name	Label	SAC name	Label
SAC name	Label	South Dublin Bay SAC	042	Charleville Wood SAC	053	Ballyman Glen SAC	058	Clare Glen SAC	131	White Lough, Ben Loughs And Lough Doo SAC	009	Newgrove House SAC	107
Killyconny Bog (Cloghbally) SAC	003	River Shannon Callows SAC	054	Clara Bog SAC	045	Bray Head SAC	060	Kilduff, Devilsbit Mountain SAC	113	Split Hills And Long Hill Esker SAC	037	River Barrow And River Nore SAC	140
Ballyallia Lake SAC	106	Barroughter Bog SAC	072	Ferbane Bog SAC	051	Carriggower Bog SAC	069	Silvermine Mountains SAC	122			Lower River Shannon SAC	133
Ballycullinan Lake SAC	100	Cloonmoylan Bog SAC	079	Fin Lough (Ofally) SAC	047	Deputy's Pass Nature Reserve SAC	094	Glenomra Wood SAC	126	Galmoy Fen SAC	116	Derragh Bog SAC	005
Ballyogan Lough SAC	092	Derrycrag Wood Nature Reserve SAC	081	Mongan Bog SAC	044	Glen of the Downs SAC	065	Keeper Hill SAC	127	Glendree Bog SAC	097	Mount Jessop Bog SAC	011
Danes Hole, Poulnalecka SAC	118	Loughatorick South Bog SAC	087	Moyclare Bog SAC	052	Knocksink Wood SAC	057	Glenasmole Valley SAC	055	Boyne Coast And Estuary SAC	006	Girley (Drewstown) Bog SAC	012
Dromore Woods And Loughs SAC	102	Pollnaknockaun Wood Nature Reserve SAC	077	Raheenmore Bog SAC	041	Buckroneys-Brittass Dunes And Fen SAC	108	Rosturra Wood SAC	075	Old Domestic Building (Keevagh) SAC	112	Wooddown Bog SAC	021
Pouladatig Cave SAC	111	Ballynafagh Bog SAC	049	Sharavogue Bog SAC	083	Vale of Clara (Rathdrum Wood) SAC	093	Ballynafagh Lake SAC	048	Ballyhoura Mountains SAC	142	Scohaboy (Sopwell) Bog SAC	089
Lough Gash Turlough SAC	125	Pollardstown Fen SAC	061	Ballinturly Turlough SAC	016	Blackstairs Mountains SAC	136	Rye Water Valley/Carlton SAC	039	Newhall and Edenvale Complex SAC	115	Arragh More (Derrybreen) Bog SAC	074
Moyree River System SAC	096	Red Bog, Kildare SAC	059	Lisduff Turlough SAC	019	Slaney River Valley SAC	141	Glen Bog SAC	139	Lough Bane And Lough Glass SAC	010	Glenloughaun Esker SAC	050
Poulnagordon Cave (Quin) SAC	114	The Loughans SAC	130	Lough Croan Turlough SAC	026	Cullahill Mountain SAC	119	Glenstal Wood SAC	132	Lough Lene SAC	013	Killeglan Grassland SAC	032
Curraghchase Woods SAC	135	Slieve Bloom Mountains SAC	070	Lough Funshinagh SAC	024	Spahill And Clomantagh Hill SAC	129	Clogher Head SAC	002	Wicklow Mountains SAC	085	Island Fen SAC	078
Baldoyle Bay SAC	034	Barrigone SAC	134	Ballyduff/Clonfinane Bog SAC	071	Clonaslee Eskers And Derry Bog SAC	063	Castlesampson Esker SAC	036	Bolingbrook Hill SAC	124	Lough Derg, North-east Shore SAC	095
Howth Head SAC	038	Tory Hill SAC	138	Kilcarren-Firville Bog SAC	076	Lisbigney Bog SAC	109	Four Roads Turlough SAC	023	Pollagoona Bog SAC	084	Old Farm Buildings, Ballymacrogan SAC	099
Malahide Estuary SAC	028	Lough Ree SAC	020	Garriskil Bog SAC	014	Ridge Road, SW of Rapemills SAC	067	Liskeenan Fen SAC	082	Mountmellick SAC	068	Ballycullinan, Old Domestic Building SAC	101
North Dublin Bay SAC	040	Fortwilliam Turlough SAC	015	Lough Ennell SAC	029	The Long Derries, Edenderry SAC	046	Kilpatrick Sandhills SAC	128	Lisduff Fen SAC	080		
Rogerstown Estuary SAC	022	Dundalk Bay SAC	001	Lough Owel SAC	018			Holdenstown Bog SAC	103				
		All Saints Bog and Esker SAC	064	Scragh Bog SAC	017			Magherabeg Dunes SAC	098				
								Pilgrim's Road Esker SAC	043				

SAC name	Label	SAC name	Label	SPA name	Label	SPA name	Label	SPA name	Label	Ramsar name	Label	NHA name	Label
Toonagh Estate SAC	105	Carn Park Bog SAC	033	Malahide Estuary SPA	20	Middle Shannon Callows SPA	21	River Boyne and River Blackwater SPA	25	Slieve Bloom Mountains	02	Cloncrow Bog (New Forest) NHA	14
The Murrough Wetlands SAC	073	Crosswood Bog SAC	035	Dundalk Bay SPA	06	River Suck Callows SPA	30	River Nore SPA	28	NHAs			
Ballyprior Grassland SAC	088	Ballynamona Bog And Corkip Lough SAC	031	Wicklow Mountains SPA	39	Garriskil Bog SPA	08	Dalkey Islands	40	NHA name	Label	Lough Derravaragh NHA	04
Silvermines Mountains West SAC	121	Moneybeg And Clareisland Bogs SAC	004	Ballyallia Lough SPA	03	All Saints Bog SPA	01	Ireland's Eye	41	Suck River Callows NHA	24	Wooddown Bog NHA	07
Askeaton Fen Complex SAC	137	Ardagullion Bog SAC	007	Lough Derravaragh SPA	13	Howth Head Coast SPA	10	Lambay Island	42	Cloonoolish Bog NHA	30	Cangort Bog NHA	42
River Boyne And River Blackwater SAC	008	Mount Hevey Bog SAC	027	Lough Ennell SPA	14	Wicklow Head SPA	38	Rockabill	43	Crit Island West NHA	19	Screggan Bog NHA	25
Slieve Bernagh Bog SAC	110	Redwood Bog SAC	066	Glen Lough SPA	09	Dovegrove Callows SPA	05	Skerries Islands	44	Castle Ffrench West Bog NHA	11	Scohaboy Bog NHA	43
Ballymore Fen SAC	025	Ardgraique Bog SAC	062	Lough Iron SPA	15	Lough Croan Turlough SPA	11	Ramsar sites				Lough Kinale And Derragh Lough NHA	01
Old Domestic Buildings, Rylane SAC	104	Rockabill to Dalkey Island SAC	030	Lough Owel SPA	17	Four Roads Turlough SPA	07	Ramsar name	Label	Meeneen Bog NHA	31	Ayle Lower Bog NHA	48
Ratty River Cave SAC	123	Wicklow Reef	162	Lough Derg (Shannon) SPA	12	River Nanny Estuary and Shore SPA	27	Lough	Derravaragh	Lough Glen	10	Loughanilloon Bog NHA	49
Cregg House Stables, Crusheen SAC	086	Lambay Island	143	Lough Kinale and Derragh Lough SPA	16	Slieve Bloom Mountains SPA	33	Lough Iron	15	Doon Lough NHA	51	Slieve Aughty Bog NHA	39
Knockanira House SAC	120	SPAs		Poulaphouca Reservoir SPA	24	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	36	Lough Owel	14	River Little Brosna Callows NHA	33	Capira/Derrew Bog NHA	34
Kilkishen House SAC	117	SPA name	Label	Lough Ree SPA	18	Slievefelim to Silvermines Mountains SPA	34	Sandymount Strand/Tolka Estuary	06	Clonydonnin Bog NHA	20	Castle Ffrench East Bog NHA	09
Mouds Bog SAC	056	North Bull Island SPA	23	Lough Sheelin SPA	19	Slieve Aughty Mountains SPA	32	Ballyallia Lough	01	Black Castle Bog NHA	18	Eskerboy Bog NHA	28
Coolrain Bog SAC	090	Rogerstown Estuary SPA	31	River Shannon and River Fergus Estuaries SPA	29	The Murrough SPA	37	The Broadmeadow Estuary	11	Arragh More Bog NHA	38	Killure Bog NHA	21
Knockacoller Bog SAC	091	Baldoyle Bay SPA	02	Boyne Estuary SPA	04			Pollardstown Fen	03	Ballymacegan Bog NHA	32	Moorfield Bog NHA	29
		Mongan Bog SPA	22	River Little Brosna Callows SPA	26			Raheenmore Bog	07	Killeen Bog NHA	36	Jamestown Bog NHA	05
		South Dublin Bay and River Tolka Estuary SPA	35					Clara Bog	04	Monaincha Bog/Ballaghmore Bog NHA	44	Carbury Bog NHA	17
								Mongan Bog	05	Ballynagrenia And Ballinderry Bog NHA	13	Hodgestown Bog NHA	22
								Rogerstown Estuary	13				
								Baldoyle Bay	09				
								North Bull Island	08				

NHA name	Label
Mount Jessop Bog NHA	02
Girley Bog NHA	03
Molerick Bog NHA	08
Carrickynaghtan Bog NHA	15
Lorrha Bog NHA	35
Nure Bog NHA	12
Lough Garr NHA	06
Nore Valley Bogs NHA	47
Daingean Bog NHA	23
Grageen Fen And Bog NHA	59
Cloonloun More Bog NHA	50
Milltownpass Bog NHA	10
Annaghbeg Bog NHA	16
Hawkswood Bog NHA	26
Clonreher Bog NHA	37
Moyreen Bog NHA	60
Lough Naminna Bog NHA	53
Lough Atorick District Bogs NHA	40
Derryoober Bog NHA	41
Coan Bogs NHA	52

NHA name	Label
Mauherslieve Bog NHA	58
Carrigkerry Bogs NHA	61
Gortacullin Bog NHA	54
Woodcock Hill Bog NHA	57
Lough Acrow Bogs NHA	55
Oysterman'S Marsh NHA	46
Maghera Mountain Bogs NHA	45
Bleanbeg Bog NHA	56
Lough Gay Bog NHA	62

Appendix B Policy, Plan and Programme Review

B.1 National and regional level

Theme	Policies, plans and programmes
All aspects	<ol style="list-style-type: none"> 1 EU Sustainability Policy 2 UN Sustainable Development Goals 3 Our Sustainable Future, a Framework for Sustainable Development for Ireland 4 Strategic Environmental Directive (2001/42/EC) and associated Irish legislation 5 Environmental Impact Assessment Directive (2014/52/EU) and associated Irish legislation 6 Environmental Liability Directive (2004/35/EC) 7 European Green Deal 8 Water Services Act, 2013 9 Ireland 2040: Our Plan, National Planning Framework 10 Water Services Policy Statement 2018 - 2025 11 National Spatial Strategy for Ireland 2002-2020 (Department of the Environment and Local Government, 2002) 12 Regional Spatial and Economic Strategies 13 Planning and Development Act 2000 (as amended) 14 Planning and Development Regulations 2001 (as amended) 15 Capital Investment Plan 2016-2021 16 Climate Action Plan 2019 17 Ireland's Environment - An Integrated Assessment 2020
Population, economy, tourism and recreation and human health	<ol style="list-style-type: none"> 18 Aarhus Convention 19 Drinking Water Directive (98/83/EC) 20 World Health Organization Guidelines for Drinking Water Quality 21 Irish Water - Water Services Strategic Plan 2015 22 Irish Water - National Wastewater Sludge Management Plan 23 Irish Water - Lead in Drinking Water Mitigation Plan 24 Healthy Ireland Framework 25 Draft Agri-Food Strategy 2030 26 Food Wise 2025 27 Food Harvest 2020 28 Fáilte Ireland's 10 Year Tourism Strategy, 29 Fáilte Ireland Visitor Experience Development Plans 30 EU Tourism Policy 31 National Countryside Recreation Strategy 32 Tourism Policy Statement 33 Tourism Development and Innovation. A Strategy For Investment 2016-2022 34 Tourism Action Plan 2019-2021 35 Waterways Ireland Tourism Masterplan for the River Shannon
Water environment	<ol style="list-style-type: none"> 36 Water Framework Directive (2000/60/EC) 37 River Basin Management Plan (April 2018) 38 General Scheme of the Water Environment (Abstractions) Bill 2018 39 Bathing Water Directive (2006/7/EC) 40 Floods Directive (2007/60/EC) 41 Nitrates Directive (91/676/EEC) 42 Urban Wastewater Treatment Directive (91/271/EEC)

Theme	Policies, plans and programmes
	43 Marine Strategy Framework Directive (2008/56/EC) 44 Groundwater Directive (2006/118/EC) 45 Transposing Regulation for the above Directives 46 Catchment Flood Risk Management (CFRAM) Programme 47 Flood Risk Management Plans 48 Draft Fourth Nitrates Action Programme 49 Waterways Ireland Tourism Masterplan for the River Shannon 50 National Marine Planning Framework
Biodiversity, flora and fauna	51 International and European Council Conventions 52 EU Biodiversity Strategy for 2030 53 The Habitats Directive (92/43/EEC) 54 The Birds Directive (2009/147/EC) 55 Green Infrastructure: Enhancing Europe's Natural Capital Strategy 56 Creating Green Infrastructure for Ireland: Enhancing Natural Capital for Human Wellbeing 57 Wildlife Act 1976-2010 58 Shellfish Waters Directive (2006/113/EC) 59 Fish Directive (2006/44/EC) 60 Fisheries Consolidation Act, 1959 61 European Communities (Birds and Natural Habitats) Regulations 2011 as amended (S.I. No. 477/2011) 62 Other National Biodiversity related regulations 63 National Biodiversity Action Plan 64 All-Ireland Pollinator Plan
Material assets	65 Waste Framework Directive (2008/98/EC) 66 Infrastructure and Capital Investment Plan 2016-2021 67 Waste Management Acts 1996 – 2005 68 Ireland 2040: Our Plan, National Planning Framework 69 National Peatland Strategy 70 Forestry Programme 2014-2020 71 Waste Action Plan for a Circular Economy 72 National Hazardous Waste Management Plan
Landscape and visual amenity	73 European Landscape Convention 74 National Landscape Strategy for Ireland 2015-2025 75 County Landscape Character Assessments
Air quality	76 Ambient Air Quality Directive (2008/50/EC) 77 Industrial Emissions Directive (2010/75/EU)
Noise	78 Noise Directive (2002/49/EC)
Climate change	79 The Kyoto Protocol 80 Paris Agreement 2015 81 EU Energy and Climate (2020) Package 2009

Theme	Policies, plans and programmes
	82 The Climate Action and Low Carbon Development Act 2015 83 National Climate Change Adaptation Framework including the Sectoral Adaptation Plans including the Climate Change Adaptation for the Health Sector 2018-2024 84 Ireland's National Policy Position on Climate Action and Low Carbon Development (2014) 85 National Mitigation Plan 86 Energy White Paper: Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007-2020 87 National Renewable Energy Action Plan 88 Offshore Renewable Energy Development Plan 89 Irish Water Sustainable Energy Strategy 90 National Climate Action Plan 2019 91 European Green Deal
Cultural heritage (archaeological and architectural)	92 EU Conventions on Archaeological, Architectural and Cultural Heritage 93 Planning and Development Acts 94 Heritage Act 95 National Monuments Act 96 Architectural Heritage and Historic Monuments Act 97 County Heritage Plans
Geology and soils	98 Planning and Development Act 99 Action Plan for Rural Development
Transboundary	100 Planning Act (NI) 2011 101 Planning Act (NI) 2011 102 Regional Development Strategy: Building a Better Future, 2035 103 Northern Ireland's Second Climate Change Adaptation Programme 104 The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009 105 Water Abstraction and Impoundment (Licensing) (Amendment) Regulations (Northern Ireland) 2007 106 The Water Supply (Water Quality) Regulations (NI) 2007, as amended (2015) 107 NI Water (2020) Our Strategy 2021-2046 108 NI Water (2020) Water Resource and Supply Resilience Plan 109 Fisheries Act (NI) 1996 110 NI Draft Flood Risk Management Plan 2021-2027 111 Marine Act (Northern Ireland) 2013 112 UK Marine Policy Statement 113 Draft Marine Plan for Northern Ireland

B.2 Local level

Theme	Policies, plans and programmes
All aspects	1. Wicklow County Development Plan 2021-2027 (emerging)

Theme	Policies, plans and programmes
	<ol style="list-style-type: none"> 2. Wicklow County Development Plan 2016-2022 (adopted) 3. Wexford County Development Plan 2021-2027 (emerging) 4. Wexford Development Plan 2013-2019 5. Carlow County Council Development Plan 2015-2021(adopted) 6. Kildare County Development Plan 2017-2023 (adopted) 7. Cavan County Development Plan 2014-2020 (adopted) 8. Cavan County Development Plan 2022-2028 (emerging) 9. Louth County Development Plan Review 2015-2021 (adopted) 10. Louth County Development Plan 2021-2027 (emerging) 11. Fingal Development Plan 2017-2023 (adopted) 12. Westmeath County Development Plan 2014-2020 (adopted) 13. Westmeath County Development Plan 2021-2027 (emerging) 14. Meath County Development Plan 2013-2019 (adopted) 15. Meath County Development Plan 2020-2027 (emerging) 16. Longford County Development Plan 2015-2021 (adopted) 17. Longford County Development Plan 2021-2027 (emerging) 18. Offaly County Development Plan 2014-2020 (adopted) 19. Offaly County Development Plan 2021-2027 (emerging) 20. Galway County Development Plan 2015-2021 (adopted) 21. Galway County Development Plan 2022-2028 (emerging) 22. Roscommon County Development Plan 2014-2022 (as varied) (adopted) 23. Roscommon County Development Plan 2021-2027 (emerging) 24. South Tipperary Development Plan 2009 (as varied) (adopted) 25. North Tipperary County Development Plan 2010 (as varied) (adopted) 26. Laois County Development Plan 2017-2023 (adopted) 27. Review of Laois County Development Plan 2017-2023 (emerging) 28. Kilkenny County Development Plan 2014-2020 (as varied) (adopted) 29. Kilkenny City and County Development Plan 2021-2027 (emerging) 30. Clare County Development Plan 2017-2023 (as varied) (adopted) 31. Clare County Development Plan 2022-2028 (emerging) 32. Cork City Development Plan 2015-2021 (adopted) 33. Cork City Development Plan 2022-2028 (emerging) 34. Dublin City Development Plan 2016-2022 (adopted) 35. Dublin City Development Plan 2022-2028 (emerging) 36. South Dublin County Council Development Plan 2016-2022 (adopted) 37. Dun Laoghaire County Development Plan 2016-2022 (adopted) 38. Dun Laoghaire County Development Plan 2022-2028 39. Limerick City and County Development Plan 2022-2028 (emerging) 40. Joint Spatial Plans, Local Area Plans and Town Development Plans (not listed individually)

Theme	Policies, plans and programmes
Population, economy, tourism and recreation and human health	<ul style="list-style-type: none"> 41. Healthy Ireland for Louth Plan 2018-2022 42. Fingal Tourism Strategy 2015-2018 43. Fingal Tourism Statement 2017-2022 44. Westmeath Tourism Strategy 2016-2020 45. Lough Ree and the Mid-Shannon Spirit Level. Wet and Wild Lands: A Shared Ambition 46. Offaly Tourism Strategy 47. Roscommon Tourism Strategy 2017-2022 48. Healthy Tipperary Strategy 2018-2020 49. Tourism Strategy for County Laois 2006-2010 50. Grow Dublin Tourism Alliance Progress and Action Plan 51. South Dublin Tourism Strategy 52. Dun Loghaire-Rathdown Tourism and Marketing Strategy 2017-2022 53. Strategic Integrated Framework Plan for the Shannon Estuary (SIFP) 54. Limerick 2030 Vision: An Economic and Spatial Plan for Limerick 55. Limerick Tourism Development Strategy 56. Glin Public Realm and Tourism Plan 57. Ireland's Ancient East Path to Growth
Biodiversity, flora and fauna	<ul style="list-style-type: none"> 58. Bray Head Special Amenity Order 59. County Wicklow Heritage Plan 2017-2022 60. Wexford County Council Biodiversity Action Plan 2013-2018 61. Louth Heritage Plan 62. Fingal Heritage Plan 2018-2023 63. Westmeath Biodiversity Action Plan 2014-2020 64. Westmeath Heritage Plan 2018-2023 65. Lough Ree and the Mid-Shannon Spirit Level. Wet and Wild Lands: A Shared Ambition 66. County Meath Heritage Plan 2015-2020 67. County Meath Biodiversity Action Plan 2015-2020 68. County Meath Community Level Biodiversity Action Plans (numerous – not listed individually) 69. Biodiversity Action Strategy for Offaly 70. Offaly Heritage Plan 2017-2021 71. Galway County Heritage and Biodiversity Plan 2017-2022 72. County Roscommon Heritage Plan 2017-2021 73. Tipperary County Development Plan 2022-2028 (emerging) 74. Tipperary County Heritage Plan 2017-2021 75. Laois Heritage Plan 2014-2019 76. Laois Heritage Plan 2020-2025 (emerging) 77. Kilkenny County Council Cultural Strategy. Arts, Heritage and Libraries 78. Clare County Heritage Plan 2017-2023 79. Clare County Biodiversity Plan 2017-2023

Theme	Policies, plans and programmes
	80. Cork County Heritage Plan 2005-2010 81. County Cork Biodiversity Action Plan 2009-2014 82. Cork City Heritage Plan 2015-2020 83. Dublin City Heritage Plan 2002-2006 84. Dublin City Council Biodiversity Action Plan 2015-2020 85. Dublin City Council Invasive Species Action Plan 2016-2020 86. South Dublin County Heritage Plan 2010-2015 87. South Dublin Draft Biodiversity Action Plan 2020-2026 (consultation draft) 88. Dalkey Islands Conservation Plan 2010-2024 89. Dun Laoghaire-Rathdown County Council Parklife: A policy for enhancing Biodiversity in Parks and Greenspaces 90. Dun Laoghaire-Rathdown Biodiversity Action Plan 2009-2013 91. Westfield Wetlands Management Plan (emerging) 92. Strategic Integrated Framework Plan for the Shannon Estuary (SIFP) 93. Limerick Heritage Plan 2017-2023 94. Limerick City Council Biodiversity Plan
Material assets	95. Connacht-Ulster Regional Waste Management Plan 2015-2021 96. Eastern-Midlands Waste Management Plan 2015-2021 97. Southern Region Waste Management Plan 2015-2021
Landscape and visual amenity	98. Bray Head Special Amenity Order 99. Louth Landscape Character Assessment 100. Lough Ree and the Mid-Shannon Spirit Level. Wet and Wild Lands: A Shared Ambition 101. Tara Skyrne Proposed Landscape Conservation Area 102. Landscape Character Assessment for Tipperary 103. County Clare Landscape Character Assessment 104. Strategic Integrated Framework Plan for the Shannon Estuary (SIFP)
Air quality	105. Dublin Regional Air Quality Management Plan for improvement in levels of Nitrogen Dioxide in ambient air quality
Noise	106. Wexford County Council Draft Noise Action Plan 2019-2023 107. County Cavan Noise Action Plan 108. Noise Action Plan 2018 109. Offaly County Council Noise Action Plan 2018-2023 110. Roscommon County Council Noise Action Plan 2013-2018 111. Kilkenny Noise Action Plan 2019-2023 112. Limerick City and Council Noise Action Plan 2018-2023
Climate change	113. County Wicklow Climate Change Adaptation Strategy 2019-2024 114. Wexford County Council Climate Change Adaptation Strategy 2019-2024 115. Carlow County Council Climate Adaptation Strategy 2019-2024 116. Kildare County Climate Change Adaptation Strategy 2019-2024 117. Cavan County Climate Change Adaptation Strategy 118. Climate Change Adaptation Strategy for Louth

Theme	Policies, plans and programmes
	119. Fingal Climate Change Action Plan 2019-2024 120. Westmeath Climate Change Adaptation Strategy 2019-2024 121. Meath County Council Climate Action Strategy 2019-2024 122. Longford Climate Change Adaptation Strategy 123. Offaly Climate Change Adaptation Strategy 2019-2024 124. Galway County Council Climate Adaptation Strategy 2019-2024 125. Roscommon Climate Change Adaptation Strategy 2019-2024 126. Tipperary Renewable Energy Strategy 2016 127. Tipperary County Council Climate Adaptation Strategy 2019-2024 128. Tipperary Sustainable Energy Action Plan 2017-2020 129. Kilkenny County Climate Change Adaptation Strategy 2019-2024 130. Cork County Council Climate Adaptation Strategy 2019-2024 131. Cork City Climate Change Adaptation Strategy 2019-2024 132. Cork City Sustainable Energy and Climate Action Plan 133. South Dublin County Council Climate Change Action Plan 2019-2024 134. Dun Laoghaire-Rathdown Climate Change Action Plan 2019-2024 135. Limerick City and County Council Climate Change Adaptation Strategy 2019-2040
Cultural heritage (archaeological and architectural)	136. Trim Town Walls Conservation Plan 137. Killeigh Historic Landscape Character Assessment 138. Offaly Historic Landscape Characterisation 139. Timahoe Monastic Site Conservation Plan 2018 140. Fort Protector Portlaoise Conservation Plan Phase 1 and Phase 2 141. Limerick City Walls Conservation Management Plan (2008) 142. County Heritage Plans as listed under the Biodiversity, flora and fauna topic area

Note: there are no local levels plans specific to the water or geology and soils topic areas. Plans of this nature tend to be regional or national level.

Appendix C SEA Screening Statement

C.1 Legislative Requirements

This report is the Strategic Environmental Assessment (SEA) Screening Assessment for Irish Water's forthcoming Regional National Water Resource Plan, (hereafter referred to as the NWRP or the 'Plan'). The Plan will require a Strategic Environmental Assessment under both the European Directive (2001/42/EC) on the Assessment of Certain Plans and Programmes on the Environment (hereafter referred to as the SEA Directive).

Article 3(2) of the SEA Directive makes SEA mandatory for plans or programmes which;

- are prepared for agriculture, forestry, fisheries, energy, transport, industry, tourism, land use, telecommunications, waste management, or water management; and
- set a framework for future development consents that could require Environmental Impact Assessment; or
- in view of the likely effect on protected sites, have been determined to require an assessment under the Habitats Directive.

Article 2 of the SEA Directive requires SEA is undertaken for '*plans and programmes*', which are

- subject to preparation and/ or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and
- which are required by legislative, regulatory or administrative provisions

Therefore it needs to be determined if the Plan is required by legislative, regulatory or administrative provisions, and if so, whether they are subject to the provisions of the SEA Directive.

In deciding whether a particular plan is likely to have significant environmental effects, regard is given to the criteria set out in Annex II of the SEA Directive. This is reproduced in Schedule 1 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004).

C.2 Competent Authority

A competent authority for the purpose of SEA is defined under S.I. No. 435 of 2004 as *the authority which is, or the authorities which are jointly, responsible for the preparation of a plan or programme, or modification to a plan or programme*. Irish Water is therefore the Competent Authority with respect to this Plan and is obliged to determine whether this could give rise to significant effects on the environment.

C.3 SEA Process

The SEA Process is a 5 stage process as follows:

- Stage 1 – Screening: deciding whether or not SEA is required;
- Stage 2 – Scoping: establishing the spatial and temporal scope of the SEA and a decision-making framework that can be used to evaluate impacts;
- Stage 3 Assessment of potential environmental impacts – within the context and parameters identified at the Scoping Stage, identification and assessment of likely environmental impacts of the options identified in the WRMP is carried out: including consideration of alternatives to the Plan;
- Stage 4 – Consultation: Consultation with statutory consultees and the public. Changes may occur to the draft Plan and Environmental Report in light of this;

- Stage 5 – Monitoring and Implementation: Monitoring Data which will aid in any future review / revision of the SEA.

C.4 Statutory Consultation

Certain designated environmental bodies must be consulted on screening and scoping of the SEA. This SEA Screening Statement is issued to the following Environmental Authorities⁷ with the scoping report:

- The Environmental Protection Agency (EPA);
- Department of Housing, Local Government and Heritage (DHLGH);
- Department of the Environment, Climate and Communications (DECC);
- Department of Agriculture, Food and the Marine (DAFM); and
- Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media – Development Applications Unit (DAU).

C.5 Transboundary Consultation

The SEA Screening Statement and Scoping Report are also issued to Northern Ireland's Department of Agriculture, Environment and Rural Affairs to confirm if transboundary environmental effects are to be considered for the Regional Plan for the Eastern Midlands.

C.6 Regional Plan for the Eastern Midlands (RWRP-EM)

The Water Services Strategic Plan (WSSP), completed in October 2015 as required under Section 33 of the Water Services No. 2 Act of 2013. The WSSP forms the highest tier of asset management plans to be prepared by Irish Water and sets the overarching framework for subsequent detailed 'Tier 2' implementation plans including the National Water Resource (Plan NWRP). The NWRP is being provided in two phases: Phase 1 Framework Plan has been completed and adopted; and Phase 2 Regional Water Resources Plans are in progress. The Regional Plan for the Eastern Midlands (RWRP-EM) is part of Phase 2.

The RWRP-EM applies the Options Assessment Methodology presented in the Framework Plan to the national water supply and develop a programme of preferred short, medium- and long-term solutions and/or groups of solutions to address identified needs for this region of the supply network.

C.7 Strategic Environmental Assessment Screening

Pre Screening Check

A pre-screening check has been undertaken to determine if RWRP-EM is considered to be a plan/programme under the legislative provisions stipulated in Article 9(1) of S.I. 435 of 2004. A pre-screening check, using the decision tree, as set out in the EPA guideline report *Development of SEA methodologies for plans and programmes in Ireland* (2003) which reflects the requirements of Article 9(1), has been applied as illustrated in Figure 3.1 below.

⁷ Governmental changes may require amendments to the exact name convention of these environmental authorities

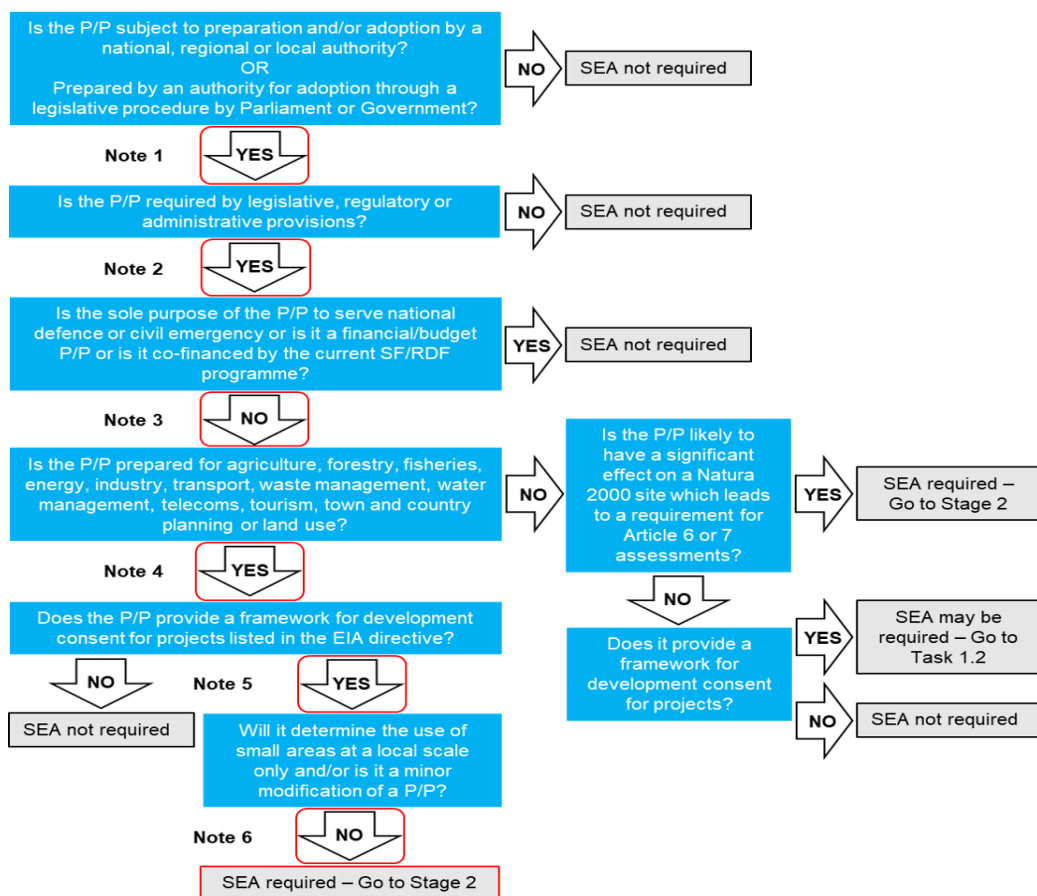


Figure 5.1 Pre Screening check list (adapted from the EPA guideline report *Development of SEA methodologies for plans and programmes in Ireland (2003)*)

Notes on the Screening Checklist

1. Is the P/P subject to preparation and/or adoption by a national, regional or local authority OR prepared by an authority for adoption through a legislative procedure by Parliament or Government?

Yes. Irish Water is a semi-state company under the Water Services Act 2013. Irish Water is accountable to two regulatory bodies; the Commission for Regulation of Utilities (CRU) who is the regulator for the water industry and the Environmental Protection Agency (EPA) who is the environmental regulator.

Irish Water is responsible for the development and implementation of the Plan. The Plan will be subject to public consultation prior to "approval" and "adoption" by Irish Water.

2. Is the P/P required by legislative, regulatory or administrative provisions?

Yes. The Plan is a regulatory requirement for Irish Water under the Water Services Strategic Plan (WSSP) as detailed in Section 33 of the Water Services Act 2013.

3. 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 round of SF/RDF?

No. This does not apply to the proposed Plan.

4. **Is the P/P prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecomms, tourism, town and country planning or land use?**

Yes. The main function of the Plan is in relation to water resource planning. The plan also includes strategy for the management of sludge from the water treatment plants.

5. **Does the P/P provide a framework for development consent for projects listed in the EIA Directive?**

Yes. According to the EPA guideline report *Development of SEA methodologies for plans and programmes in Ireland (2003)* a “framework for development consent” occurs:-

“when the P/P would lead to, or give guidance for the consent of development projects. This may be observed as the demarcation of areas zoned for specific types of development, measures which identify circumstances under which development will be encouraged or allowed, criteria which may be applied to decisions on development consent or forward programmes which identify certain types of development to be pursued in a particular sector.”

The Plan will identify a range of options, including types of projects that fall within the categories set out in Annexes I and II to the EIA Directive, for example works for the transfer of water.

6. **Will it determine the use of small areas at a local scale only and/or is it a minor modification of a P/P?**

No. The Plan is regional covering a large part of the Republic of Ireland and is part of a national plan and is not a modification to an existing Plan.

C.8 Conclusion

Screening Decision

In conclusion on the basis that the provisions of Article 9(1) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations have been met, the RWRP-EM has been ‘screened in’ as requiring SEA, and therefore the SEA process should move to Stage 2 – Scoping Stage.